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March 1943

CONSUMERS' RESEARCH

Bulletin



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CONSUMERS' RESEARCH



Vol. 11 • No. 6

BULLETIN

March 1943

Off the Editor's Chest

CHANGES in the quality of consumers' goods are now beginning to be apparent even to the casual shopper. Such products as are still permitted to be made for essential civilian needs are beginning to show the depreciation in quality that is one of the inevitable effects of war.

There are many headlines and much talk from various Washington "alphabet agencies" about the need for holding prices down and keeping up quality. During the regime of Leon Henderson as Administrator of the Office of Price Administration, he and his assistants hurled many threatening words and warnings of dire consequences at manufacturers who might attempt by cheapening the quality of their products to escape the price squeeze from rising costs of production. Perhaps a few consumers mistook Mr. Henderson's flow of words for competent administration and effective action in consumers' behalf. Some no doubt believed that the costs of war could be paid in a magical fashion by someone other than the citizenry, and that prices could be held down, while the quality of the things needed for daily living would remain at the high levels of peacetimes. Not many apparently held this somewhat naive opinion, however, for there was no strong protest from consumers at Mr. Henderson's "resignation" for reasons of ill-health—though a few newspapers and commentators spoke as though Henderson's leaving would be a great loss.

The former Price Administrator's attempt to up-

hold quality of consumers' goods—chiefly by the strong-language method—came to mind some weeks later when we received a letter from an executive of the Office of Price Administration which read in part:

We believe that Consumers' Research, Inc., can be helpful to the Office of Price Administration by apprising it of reductions which have occurred since January 1, 1942 in the customary quality and quantity factors of consumer goods, especially those designated as cost-of-living commodities. Thus, for example, we would welcome information concerning the following groups of commodities: a) Packaged household drugs; b) Toiletries and sundries; c) Men's, boys', women's, girls', infants' clothing and footwear; d) Food products such as canned vegetables, fruits, fish, meats, oils, and infants' foods; e) Packaged cereals and bakery products; f) Household furnishings such as blankets, sheets, towels, rugs, carpets, and furniture; g) Household sundries.

What the OPA was doing these many months while its representatives had been talking of their far-flung and costly activities on such problems was not revealed in the letter, but as we read the list, we recalled complaints of some of the female members of CR's staff on the difficulty of getting wool skirts of good quality at prices they were accustomed to

[Continued on page 19]

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Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price;** 42, 43—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least a month before it is to take effect, accompanying your notice with statement of your old address with name in full. At least three weeks' notice must be given in any case, with the exception of military personnel. For such personnel, changes of address will be specially handled whenever necessary.

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The Consumers' Observation Post

FROZEN FOOD LOCKERS have a long waiting list of would-be patrons these days. Although voluntary meat rationing allows 2-1/4 pounds per adult per week, distribution is so spotty that even this limited amount of the preferred variety, whether it be beef, pork, or lamb, is not available in some sections. An outstanding meat expert at the University of Illinois points out that a locker patron is the only civilian who is assured of his 2-1/4 pounds when he wants it of the grade, cut, and variety he prefers. He mentions too that it is possible for the consumer to obtain

meat from a nearby farmer who does his own butchering providing the farmer does not slaughter and sell more meat than he did in the same period of 1941. Buying locally-killed meat helps reduce the load on over-taxed transportation facilities.

* * *

THE SO-CALLED ANTI-GRAY HAIR VITAMIN, p-aminobenzoic acid, and adenine, a compound found in yeast, liver, and other natural foods, may if taken in too large amounts reduce the body's ability to protect itself against bacterial infections. Both of these compounds, according to Dr. Gustav J. Martin and C. Virginia Fisher of the Warner Institute for Therapeutic Research, increase the growth rate of bacteria in the body. They also increase the toxicity and reduce the effectiveness of the sulfonamides so effectively employed of late in the treatment of certain diseases. Any food or medical substance for which near-magical properties are claimed usually turns out to have unfortunate after-effects of one sort or another.

* * *

HOUSEHOLD FATS are being used for gravy and as a substitute for scarce butter and other shortenings. Less is turning up at the salvage depots, particularly in sections where bacon is scarce and hard to get. One food editor and author in a newspaper interview suggested that beef fat saved separately from other meat drippings, chilled in the refrigerator and seasoned with salt just before spreading on the morning toast will provide an acceptable substitute for butter. Its lack of vitamin A can be made up by careful planning to provide an extra amount of other foods such as carrots, liver, or cheese, in which this vitamin or its precursor, carotene, is found.

* * *

FUEL SHORTAGE may be a contributing factor in hastening the death of old folk who are very sensitive to cold. Shortage of fuel, points out a medical news column, may also favor a lack of ventilation due to reluctance to let in fresh, but cold air. One result may be an increase in the number of cases of infectious disease.

* * *

BALDNESS, according to a recent observation, occurs in persons whose skull bones have calcified to such an extent that the small foramina through which the blood vessels pass are closed or narrowed. This pinching off of the blood vessels impairs the circulation of the scalp. Such calcification, according to the scientist who made the study, is greater among men than among women, hence the larger number of men in the bald-headed row. The suggestion is made that possibly the encouragement of adults to increase their calcium intake may have contributed to this calcification process. Men with thinning hair, perhaps, should go lightly on milk, and on other foods that increase calcium intake.

* * *

TEA MADE FROM EITHER GREEN OR DRIED LEAVES of the persimmon tree is found to have a high vitamin C content. Finely divided leaves may be steeped in the customary fashion in a cheese-cloth bag or a ball for five minutes in boiling

water. The flavor is similar to sassafras tea, and the color is much like that of a light tea made with tea leaves.

* * *

PRODUCTION OF HOME-DRIED FOODS will be pushed this year in order to relieve the pressure on supplies of glass jars with their metal lids and rubber rings. Government experts who have been working on the problem have designed a home-made electric food dehydrator to be constructed mainly of non-critical materials. It has been announced that plans are obtainable from the Rural Electrification Administration, St. Louis, Mo.

* * *

REPLACEMENTS FOR BURNED-OUT TOP UNITS of electric ranges are somewhat difficult to secure these days. Chromalox Super Speed rings and Chromalox Heatflo units to fit any type of electric range were available early this year from Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh, Pa., without priority. Orders should be placed through a local dealer, if practicable, but when necessary and where no local dealer is available, the Wiegand Co. will handle an order direct. The old unit should accompany an order for a new ring or unit. (CR has not tested these units but lists them for readers' convenience, since some consumers may find it necessary to obtain immediate replacements.)

* * *

FOOD FOR AMERICAN CIVILIANS, according to present plans, will be about 90 percent of that available in 1942. One school of official thought holds that consumers' health will be improved by eating less. According to Department of Agriculture figures about 30 percent of our pork production, 10 percent of lamb and mutton, 60 percent of all cheese, nearly all of the production of dried milk, and a number of other foods are to be diverted from civilian use for lend-lease requirements. Speaking up for American consumers, one farm-state senator suggests that we ship margarine abroad and keep the butter for use of our own troops and for civilian needs. A trade paper suggests that we lend-lease horse meat, which takes to dehydration readily.

* * *

HOME REPAIRS COST ABOUT TWICE AS MUCH to have done as normally, and many items needed for renovation are unobtainable. Wall paper, paint, and varnishes are still available, and if you can do the job yourself, you'll get it done quicker and cheaper. In Detroit, for example, a first-class job of decorating a five-room flat now costs around \$115 where the same job two years ago would have been something like \$50. Repairmen for refrigerators, radio receivers, electric stoves, water-pumps, motors, and such are as scarce as the proverbial hen's teeth.

* * *

SOAPS in the future won't lather so freely. Poor lathering has always been a problem in hard-water districts, but when new batches of soap reach the market, even consumers in soft-water districts will notice a difference from pre-war soap. (Coconut oil from copra is what used to provide the necessary elements that help make a quick and generous lather.) One beneficial result from this shortage of imported soap-oils is that the people who found that their skin was irritated by certain brands of soap that contain coconut oil may no longer have this trouble.

* * *

SHORTAGE IN THE WEIGHT OF WOOL YARN sold in rather wide distribution in the state of Indiana has been discovered by two sharp-eyed inspectors. The yarn in question was khaki colored and in wide demand by the Red Cross and individuals knitting for soldiers. Skeins labeled 4 ounces were found to weigh from 3-1/8 to 3-3/8 ounces—extremely short measure. Next time you buy knitting yarn, it may be in order to check its weight on a sensitive scale before you use it.

* * *

USE ONLY GOOD QUALITY PAINT on the exterior of farm and other buildings. In these days when it is difficult to get skilled help, it is poor economy to apply inferior paint, which may contain as much as 35 percent water, finely ground sand, chalk, and other undesirable constituents, writes a farm building specialist of Purdue University in the Agricultural Leaders' Digest. He further advises the purchase of "open-formula" paints, which carry labels telling exactly what ingredients and how much of each are in the can. Painting should not be done at times when there are likely to be great changes of temperature, particularly downward, nor at temperatures lower than 40 degrees above zero.

[Continued on page 29]

Peanuts - They Are Legumes

THE PEANUT is not a nut at all but is a relative of the pea family that grows underground. In various sections peanuts are called ground peas, earth nuts, earth almonds, and ground nuts. Their origin is not altogether clear, but they were known as early as 950 B.C. and were brought to this country on slave ships where they were used as food for the slaves. P. T. Barnum, the great circus-pioneer, is credited with introducing them to audiences at the circus whence they found their way into the home as a household food.

The class of foodstuffs to which peanuts belong are called *legumes*, of which the most important are peas, beans, lentils, and peanuts. Dried legumes are generally rated as containing from 18 to 35 percent of protein, over 1 percent fat, and up to 65 percent carbohydrate. They also contain the important minerals—iron, phosphorus, and calcium. Because of their high protein content, these foods have been called "the meat of the vegetable kingdom." It should be noted, however, that they are not considered to be so easily digestible as meat, nor is their protein of as high biologic value as that of meat and eggs.

Peanuts and peanut butter are good sources of the B vitamins and also contain some vitamin A and vitamin G. (Roasting kills some of the vitamin content, but roasting is indispensable for raw peanuts are not palatable and probably would not be easily digested.) The protein content of peanuts is approximately 25 percent while that of peanut butter is higher, nearly 30 percent. The

fat content of peanuts is approximately 38 percent while that of peanut butter is over 46 percent. When eating peanuts, they should always be very thoroughly chewed; because of the importance of a fine state of subdivision in making peanut meat more digestible, peanuts are probably best eaten, by most people, in the form of peanut butter.

Whether peanuts are classified as nuts or as a member of the pea-bean family, they have caused unpleasant allergic reactions both in children and in adults. In such cases the simplest cure is to eliminate peanuts and all derivative products from the diet.

Peanut Oil

Peanuts assume new importance in time of war when there is heavy demand for oil and for protein foods of all sorts. Refined peanut oil for use in cooking has been on the market for a number of years, but its supply has been somewhat uncertain and its distribution spotty. From recent studies made by the U.S. Department of Agriculture it would appear that peanut oil, which rates high as to digestibility, is quite satisfactory for deep frying.

Peanut oil has a high linoleic acid content (Virginia peanuts 21.6%, Spanish peanuts 24.7%). It is the present opinion of biochemists that linoleic acid is especially important to health, particularly for health of the skin; it is also the view of qualified scientists that the average diet, made up in large part of refined, processed foods, does not contain enough fat of the kinds that supply linoleic acid. Since the process of hy-

drogenation destroys this substance, both peanut oil and peanut butter that have not been hydrogenated will have higher nutritional values. Hydrogenation is a chemical hardening process that turns a liquid fat, or oil, into a solid or plastic fat of higher melting point.

Peanut oil may prove to be an acceptable substitute for olive oil when consumers become accustomed to its use and taste. The National Peanut Council, Atlanta, Georgia, is making every effort to see that peanut oil is widely available in the retail market.

Peanut Flour

Peanut flour is beginning to make its appearance on the market. It is a by-product of the peanut oil industry and in its unrefined form has been used in the feeding of farm animals, as a source of protein. Dr. Russell M. Wilder of the Mayo Clinic and the National Research Council suggests that it may well be used to remedy the protein, mineral, and vitamin deficiencies of refined foods. Bread made with 25 percent peanut flour and 75 percent white flour supplemented with the necessary minerals and vitamins has been found to be palatable and to have a high nutritive value.

Peanut Butter

The manufacture of peanut butter takes the lion's share of the peanut crop. According to one source, it is reported to have been made originally in sanitariums as a food for invalids.

Although it is manufactured commercially on a large scale

and is generally available in grocery stores everywhere, there are still people who prefer to make their own or to buy it freshly made when it is available from a local market. One recipe for home preparation calls for 2 cups of blanched and roasted nuts put through the finest plate of the food chopper two or three times. When the last grinding is completed, add one-half teaspoonful of salt and one tablespoonful of bland table oil if desired to produce a smoother consistency. When made, it should be packed in tightly closed containers.

High-grade peanut butter must be made from first quality peanuts. The varieties commonly used are the Jumbo, Virginia Bunch, Virginia Runner, and Spanish. Most manufacturers use a combination of the Jumbo, Virginia, and Spanish varieties. Some hold that the Virginia peanuts do not have enough oil, and that the Spanish variety has too much.

Peanut Butter Grades and Standards

Since low-grade peanut butter is very unpalatable stuff and has marred the good repute of peanut butter among many users, the better manufacturers have worked with the U.S. Department of Agriculture to establish grades for peanut butter. These became official on September 1, 1942. The newly adopted standards for peanut butter define it as a product made from ground, roasted peanuts from which the majority of seed coats (hulls) have been removed, to which seasoning and stabilizing ingredients or ingredients of nutritive value may be added.

The addition of 2 percent of glycerine is said to prevent the oil from separating out of the

peanut butter. This addition, however, must be declared on the label. In order to obtain a consistency that some users consider more desirable, some manufacturers take part of the oil extracted in crushing the peanuts, hydrogenate it, and return it to the mix. Sugar as well as salt is sometimes used as seasoning.

Since some of the nutritive content of the oil is lost in the hydrogenation, greater food values are to be found in the type of peanut butter that does not contain any proportion of hydrogenated oil. Glycerin, which is a permissible addition, is hygroscopic. It has the property of absorbing water from the body tissues and is, therefore, a potential cause of irritation of stomach and intestines; it seems most unwise that the Food and Drug Administration has permitted the addition of this artificial chemical substance to any food, especially in view of the critical need for glycerin in the maximum possible amounts at this time for munitions manufacture and other processes connected with war production.

Uses of Peanut Butter

Peanut butter is best purchased in small amounts both by the grocer and by the housewife, so that it may be used in a short time, to assure as fresh a product as possible.

If a jar accumulates oil at the top, screw the cap on tightly and stand the jar on its head until the oil is again evenly distributed.

Those who like the flavor of peanut butter, but find its consistency too thick, will find that it may be made more spreadable by mixing a tablespoonful (or any desired quantity) with a little hot water just before it

is made into sandwiches.

A tasty somewhat sweet spread may be made by combining one tablespoonful of peanut butter with two tablespoonfuls of prune purée (made by putting pitted cooked prunes through a fine sieve or purée). The prune-peanut-butter mixture is an excellent substitute for either butter or jelly.

Since peanut butter is a very concentrated food, it is more easily digested when well combined with other foods. In addition to its most common use as a spread for bread, it may partially or wholly replace the fat in muffins, cookies, waffles, rolls, and griddle cakes. Those who like peanuts and are interested in experimenting may secure a booklet of recipes entitled *Peanuts—Their Food Values and Interesting Recipes*, by sending a postal card to The National Peanut Council, 812 Citizens and Southern National Bank Building, Atlanta, Georgia.

To sum up, peanut butter is an excellent and economical food, a good source of digestible fat and vegetable protein. In times of protein shortages, its use may well be increased in the family menus. Since the protein of peanuts is not of such a high biologic quality as the protein of meat, milk, and eggs, peanut butter should not be permitted to displace those foods, when they are still obtainable. Peanuts and peanut butter cannot be considered a "substitute" for meat, although they can serve well as a "meat stretcher" or extender.

Scoring of Specific Brands

The following brands of peanut butter which are believed to be widely available throughout the country have been scored by North Dakota State

Laboratories for their conformity to the new government standards; ratings are by Consumers' Research.

Government standards for peanut butter distinguish three types according to fineness of grinding: *Fine Finish*, *Medium Finish*, and *Coarse* or "*Chunky*" *Finish*. Colors are defined as "light roast" or "heavy roast." The three grades are *U.S. Grade A*, which is practically free from defects and possesses a very good flavor and aroma and scores not less than 85 on color; *U.S. Grade C*, which is fairly free from defects, has a fairly good typical flavor and aroma, and a fairly good typical color; and *Off-Grade* peanut butter, which is peanut butter that fails to meet the requirements of the other two *U.S. Grades*. All of the samples tested were either *U.S. Grade A* or *U.S. Grade C* and were unusually free from objectionable extraneous matter. All brands were of a darker color peanut butter than the reference plate specified in the official grading tests and were, therefore, classified as "heavy roast." Some samples were graded down because of over-roasting, although some consumers might not ob-

ject to this particular flavor.

A. Recommended

Beech-Nut Brand Peanut Butter (Beech-Nut Packing Co., Canajoharie, N.Y.) 1-lb. jar, 33c. Medium finish. Slightly weak flavor and aroma. Scored *U.S. Grade A*.

Beverly Peanut Butter (Table Products Co., Washington, D.C.) 1-lb. jar, 26c. Medium finish. Scored *U.S. Grade A*.

N.B.—The following peanut butters in this group contained hydrogenated peanut oil:

Heinz Peanut Butter (H. J. Heinz Co., Pittsburgh) 9½-oz. jar, 23c (39c a lb.). Medium finish. Label claimed "Made from Virginia and Spanish peanuts, salt, hydrogenated peanut oil." Flavor quite salty. Scored *U.S. Grade A*.

Skippy Chunk Style Peanut Butter (Rosefield Packing Co., Ltd., Alameda, Calif.) 1-lb. jar, 37c. Coarse finish. Claim on label, "Oil modified by hydrogenation. Made of *U.S. Grade No. 1* Peanuts, Seasoned with Salt and Sugar." Scored *U.S. Grade A*.

Mosemann's Tasty Peanut Butter (Mosemann Co., Lancaster, Pa.) 1-lb. jar, 27c. Fine finish. Claim on label, "Processed with hydrogenated peanut oil. Contains approx. 500 Sherman Chase Units per pound" of vitamin B₁. Scored *U.S. Grade A*.

B. Intermediate

The brands listed below the asterisks are considered to be of a somewhat lower quality than the other brands which scored *U.S. Grade C*.

Ann Page Peanut Butter (A. & P. Tea Co., New York City) 1-lb. jar 25c. Medium finish. Over-roast flavor. Scored *U.S. Grade C*.

Armour's Star Peanut Butter (Armour & Co., General Office, Chicago) 1-lb. jar, 25c. Medium finish. Stale and rancid to a slight degree. Scored *U.S. Grade C*.

Kemp's Peanut Butter (E. F. Kemp, Inc., Somerville, Mass.) 1-lb. jar, 39c. Fine finish. Claim on label, "Ingredients: Extra Large Virginia Peanuts, No. 1 Spanish Peanuts and Salt." Over-roast flavor. Scored *U.S. Grade C*.

Monarch Peanut Butter (Reid, Murdoch & Co., Chicago) 1-lb. jar, 39c. Medium finish. Over-roast flavor. Scored *U.S. Grade C*.

Peanut Crunch Brand, an Improved Peanut Butter (Holsum Products, Brooklyn, Cleveland, Kansas City, Milwaukee) 1-lb. jar, 33c. Coarse finish. Over-roast flavor. Scored *U.S. Grade C*.

* * *

Real Roast Peanut Butter (Table Products Co., Los Angeles, Seattle, and Kansas City) 2-lb. jar, 47c (24c a lb.). Medium finish. Scored *U.S. Grade C*. Texture unpleasant.

N.B.—The following peanut butter contained hydrogenated peanut oil:

Skippy Creamy Peanut Butter (Rosefield Packing Co., Ltd., Alameda, Calif.) 1-lb. jar, 45c. Fine finish. Claim on label, "Stays Fresh—No oil separation. Oil modified by hydrogenation . . . Made of *U.S. Grade No. 1* peanuts seasoned with salt and sugar." Rather weak flavor and aroma. Scored *U.S. Grade C*.

Corrections and Emendations to Consumers' Research Bulletin

Candy Bars
Col. 57
ACB '42-'43

The circular on Healthful Sweets is available only to residents of California.

Dairy Products
Col. 65
ACB '42-'43

Delete the reference to History of Randleigh Farm.

First Aid
Col. 165
ACB '42-'43

The price of Until the Doctor Comes—U. S. Public Health Service Pub. 21 has been raised from 10c to 15c.

Water Softeners
and Detergents
Col. 301
ACB '42-'43

Substitute Chicago Chemical Products Co., Box 101, Chicago, for Buffalo Chemical Supply Co., Buffalo, N.Y., as a company specializ-

ing in small orders for common chemicals used in the household. (This change of name and address applies also to column 95, "Sources of Supply for Common Chemicals," of the 1941 ACB.)

Dog Food
Page 9, Col. 1
January '43

Delete the listings of *Ken-L-Ration* and *Ken-L-Biskit* (which were in the A. Recommended group). We have been advised that the biological value of both of these products has been materially modified, and for this reason they do not now appear on the list of dog foods approved by the Joint Committee on Foods of the American Veterinary Medical and American Animal Hospital Associations.

Reflective Shields for Radiators

REFLECTIVE SHIELDS placed behind radiators of a house can save considerable quantities of heat which would otherwise be lost through the walls. Even with one's hand, one can detect this heat loss, for if on a cold day, one touches the exterior wall of a house that is not well insulated, those portions of the wall directly adjacent to the radiators will feel appreciably warmer.

Unfortunately, the average consumer is not familiar with the reflective shields as means for heat-saving; on account of the consumer's lack of knowledge of or confidence in this simple expedient, department stores and others have not promoted the material as extensively as its usefulness deserves. Before the war, aluminum foil coated on both sides of an asphalted, heavy kraft paper (about .013 in. total thickness) was sold at around 3c to 4c per square foot. Aluminum foil, about .002 in. thick was sold under the name *Alfol*, at 7-4/5c a square foot. Now with aluminum unavailable, three products are being offered: One, a new *Alfol*, made by the Alfol Insulation Co., Inc., 155 East 44th Street, New York City, which is a thin paper coated with a thin metal film on one side (about .0018 in. total thickness). This product sells at 7-3/4c per square foot. Chemical analysis showed the metal surface to be of lead. The second material is called *Foylglow*, made by Glow Products Company, 235 East 42nd Street, N.Y.C. This is a stiff cardboard coated with a thin foil on one side with a total thickness of .024 in.; analysis showed that this foil is of tin.

Like the new *Alfol* and unlike the pre-war double-aluminum-surfaced material, there is reflective metal on only one side. *Foylglow* is very expensive, being sold at around 15c per square foot. The third product is made by the Masonite Corporation and sold by Montgomery Ward, Jamaica, Long Island (4 shields, 25 in. x 17½ in., for \$1, equivalent to 8.2c per sq. ft.). This consists of pads of a substance which appeared to be wood fiber insulating material 1 in. thick with a thin metallic-painted or -sprayed paper about .005 in. thick glued to one surface, the back being covered with an embossed brown paper.

In testing these materials for effectiveness in resisting passage of radiant heat, CR compared each of them in turn with the pre-war double-aluminum-coated kraft paper. *Foylglow* was found to be slightly less efficient than the pre-war aluminum-coated paper insulation; and the *Alfol* slightly less efficient than *Foylglow*. Two pieces of the new *Alfol*, back to back, shiny sides out, gave performance nearly as good as the pre-war double-aluminum-coated sheet. Using *Alfol* double would bring its cost up to about that of *Foylglow*, or \$1.25 for the average radiator, but used in this way, it would be at a disadvantage compared with *Foylglow*, since there would be involved the extra trouble of cutting two sheets and providing for their being used together (or with an air space between, which gives an advantage in reducing thermal transmission). The Masonite product gave distinctly inferior results, being roughly only about two-thirds

as effective as the other substitutes tested and only about as effective as clean white cardboard.

Bright tin-plated iron sheets (what the layman calls tin) were found to give results in reducing heat loss to a wall by radiated heat about as good as double-faced aluminum foil.

The choice between *Alfol* (as it is now being manufactured) and *Foylglow* would seem best based on practical considerations. The *Alfol*, being about the same thickness as the thin paper used in the typewriter for making carbon copies, might be easily damaged or torn when cleaning the radiator, and would require a frame to hold it rigid unless the radiator were directly under a window or woodwork where *Alfol* could be fastened with thumbtacks to suspend it in the correct position. The *Foylglow*, on the other hand, is sufficiently rigid to be easily manipulated and adjusted and to support itself in position behind the radiator. Thus it would require no frame, and should be considerably more durable in service.

There appears to be no reason for the extremely high prices charged for the various materials now used for reflective radiator shields. *Foylglow* at 15c per sq. ft. is sold at 4 or 5 times the price of the efficient pre-war aluminum-coated kraft paper. Even the prices of the lower-priced reflective products tested, which sell at about half the price of *Foylglow*, hardly seem justified in view of the low cost of the materials used, and the fact that war conditions could not have increased their production and distribution costs significantly.

The Half-Engined Car

THE CO-OPERATIVE RESEARCH COUNCIL, an automotive research group affiliated with the Society of Automotive Engineers, has recently made a study of the proposed plans for saving gasoline by "cutting out" or rendering inoperative half of the cylinders of an automobile engine. Although it was found that a saving of some fuel would result from such a change, it is understood that the Council has decided, as a matter of discretion, not to release its findings for the present. This decision was made because members of the Research Council took the ground that they ought not to act in a way to affect the gasoline rationing program by citing ways in which mileage could be increased, inasmuch as permitting the consumer to use his car over greater mileage with the same number of gallons of gasoline would tend to run counter to the government's desire to reduce tire mileage to the maximum possible extent.

This decision would seem to have been better justified had there not been a gasoline shortage, at least in many large areas of the country, and had the gasoline rationing system been set up in a way to make more sense than it does in practice. No patriotic American would object to gasoline needed for his essential use being diverted to the armed forces in North Africa and elsewhere, but he would have the right to raise the strongest possible objection to bureaucratic failures to take advantage of methods that would reduce unnecessary consumption of gasoline and thus permit the rationed

amounts to go further (for example in thinly populated areas, where even a trip to the grocer's may involve 40 miles or so of driving). Then, too, every endeavor should have been made by rationing authorities to eliminate some of the sudden and demoralizing disruptions of civilian life which the woodenly and confusingly administered rationing program is producing. Sometimes we're being rationed on gasoline, which is said to be very scarce in some areas; sometimes the whole program is asserted to be seen exclusively or primarily as a way of saving rubber; and no one seems to feel obligated to announce a policy at a given moment that would be consistent with policies announced at other times. Only very recently the OPA announced that the ban on pleasure driving was extended to pleasure use of gasoline-powered boats. Obviously, as such boats do not use rubber tires, the ban was intended to save gasoline. Ex-Administrator Henderson himself stated that the reason for the strict gasoline rationing in the East is because tankers have been unable to make sufficient gasoline deliveries on the Atlantic coast.

Moreover, under the present system, the ration allotment is based on a figure of 15 miles per gallon. On the face of it, that speaks for an intention to save gasoline primarily, not tires, for many cars give much less than 15 miles per gallon, and others give more. It would have been a relatively simple matter for cars to have been divided into four or five groups, and a gasoline-mileage figure set for each of these in accordance with normal user-experi-

ence for the group. With such a plan, owners who kept their cars in proper adjustment for good gasoline economy would not be penalized, nor would those who happened to have been lucky enough to buy a car giving high mileage per gallon have been given a special advantage over others who have the same need to travel to essential work or on tasks of the same public importance, often to the same job. It is doubtful whether the adoption of the half-engined method would actually result in anything more than a small increase in tire wear implied in the dashing to and fro of OPA officials and agents on errands of the utmost unimportance, for only a small proportion of the total cars in service would probably be converted to the half-engine system, for reasons later to appear.

For many years Consumers' Research has campaigned against the trend to increase horsepower, a trend against the best interests of the consumer, who was provided with more power, accelerating ability, and speed than should ever be needed in a car for civilian use, at the expense of reduced gasoline economy. If the government had encouraged, and manufacturers had produced cars capable of giving 30 or more miles per gallon regularly and merely adequate performance in accelerating and hill-climbing ability, there would have been no gasoline shortage such as now confronts the East, or, at least, it would have been less acute, and the tank cars needed to bring this extra gasoline east could have been used for the sorely needed fuel oil. An auto-

Table I

Car	Nominal Speed 35 m.p.h.*			Average Traffic Conditions		
	Miles per Gallon		Improvement Due to Conversion in %	Miles per Gallon		Improvement Due to Conversion in %
	Before Conversion	After Conversion		Before Conversion	After Conversion	
1941 Ford V-8	24.2	33.0	36	19.0	27.2	43
1941 Chevrolet 6	25.0	29.0	16	19.5	24.9	28
1941 Plymouth 6	24.6	30.8	25	19.4	23.4	21
1941 Buick 60	20.0	26.0	30	16.7	20.1	20
1940 Oldsmobile 8 Hydramatic	23.8	26.8	13	15.8	18.9	20

* Information in these three columns gives an idea of the savings that might be achieved where a large part of the utilization of the car is for open country driving with few stops, and little or no need for gear shifting.

mobile engine is rarely called upon to produce the tremendous power of which it is capable, hence, at average speeds on level roads, it is operating at part throttle at a mere 18 to 30 horsepower, instead of the 90 to 150 or even more commonly available, and hence at very poor efficiency. Most of the time the cylinders of the car are working at only a fraction of full load, and 8 or 6 cylinders are doing the work which could be equally well accomplished by 4 or 3 cylinders using less gasoline.

The layman tends to assume that if only half the number of cylinders are used, the gasoline mileage will be doubled. This is not the case, for the power produced by the engine does not all go towards propelling the car. Some of the horsepower is expended in operating the pumps which circulate the water through the cooling system, driving the generator and fan, etc. The power required for these, of course, is not cut in half, but remains the same. Then, too, the reduction in the total horsepower necessitates changing more often to lower gears for climbing hills or quick accelerations (and in lower gear, more gasoline is required per mile than in high gear). In spite of these factors, however,

it is obvious that under certain conditions modifying the engine could result in better gasoline economy, and it is on this theory that the plan worked out by the Sun Oil Company of eliminating half of the working cylinders was evolved. This method has been tried out on several cars with different types of engines, including the V-8, the 8-in-line, and the 6-in-line. The cars used were *Ford V-8*, *Chevrolet*, *Plymouth*, *Buick 60* (all were 1941 models) and a 1940 *Oldsmobile 8* with Hydramatic transmission. While it was not possible to present all data secured in tests on the cars in the space available, sufficient will be given to give the reader a fairly clear idea of the savings possible and the effect on performance by the adoption of this method.

Effect of Change to Half-Engine on Gasoline Consumption

Tests for gasoline consumption were made before and after conversion to the half-engine arrangement, at various nominal speeds on a level road, and also on trips over fairly flat country, under average traffic conditions. During the trips the average speed, as measured by distance traveled divided by the elapsed time, varied from 22 to 30 miles per hour, depending

upon the car. Table I gives the results of the tests at a nominal speed of 35 miles per hour (the maximum or "war speed" now permissible) and under average traffic conditions. The latter are the most significant, but they should be regarded as *maximum figures obtained by careful driving under normal conditions*, for they could not be obtained in very hilly country, where much use of first or second speed, or changing gears frequently would be necessary. Under the conditions named, the percentage improvement in gasoline economy of 20% for the *Oldsmobile 8* to 43% for the *Ford V-8* are figures well worth considering by anyone who has more or less continuous and important use for his car and is unable to obtain sufficient quantities of gasoline for his essential needs.

Effect on Performance

The drastic reduction in the available horsepower of the engine achieved by reducing the number of working cylinders naturally decreases its hill-climbing and accelerating ability. With the maximum speed limit now set at 35 m.p.h., the loss of some accelerating ability is not particularly important. It merely means that the driver must be cognizant of the fact

that he has much less power at his command to meet a transient need, and in passing other cars or trucks on the road he must make due allowance for the considerably longer time required to increase his speed. The impairment of hill-climbing ability could be serious, were it not for the fact that modern cars are practically all greatly overpowered and their lower gears used only rarely on ordinary or short hills. In European countries where gasoline, even in times of peace, is expensive and heavily taxed, cars are designed to give good gasoline economy, and the driver thinks nothing of changing gear for climbing hills or picking up speed in traffic.

The effect of the modified engine on hills and in all circumstances where fast acceleration is required is quite noticeable to the driver, but after a very short time one becomes accustomed to it, and gear changing, when required, becomes automatic. To obtain comparative figures, the percentage gradients each car would climb at a steady given speed were measured in high gear for the car before conversion and in various gears after conversion.

In the following table are shown the percentages of climbing ability of each car after conversion of the engine, as compared with the same car before conversion. (For example, the half-engine *Ford* in high gear would just succeed in climbing a grade approximately one-third as steep as it would before conversion to the half-engine basis.)

The above comparisons are at 20 m.p.h., except as noted. However, the slope which the car was able to climb at higher speeds in most cases differed

Table II

Car	Percentage of Climbing Ability Remaining After Conversion
<i>Ford</i>	32
<i>Plymouth</i>	38
<i>Chevrolet</i>	41
<i>Buick</i>	32 ¹
<i>Oldsmobile 8 Hydramatic</i>	39 ²

¹ At 30 m.p.h. (no figure available at 20 m.p.h.)

² With car in 4th gear before conversion, 3rd gear after conversion.

only slightly from the figures given in the table.

When gears were changed as needed, however, all of the converted cars would climb any gradient likely to be encountered in average city or even in unusual country driving. (There might be an occasional exception in the case of a very unusually steep road or lane up to a country cabin or camping place.)

General Comments

In driving the different cars, anyone not cognizant of the fact that the engines had been modified would not find any perceptible difference in their running in high gear at normal speed, for they ran just as smoothly and evenly as before conversion. An exception must be noted in the case of running at very low speed, for in running very slowly, it was found more necessary than with the normal engine to change from high to second gear. This was particularly noticeable in the case of 6-cylinder cars, which gave definitely uneven motor action at speeds under 16 m.p.h. As to top speed on a level road, all of the cars were capable of doing better than 60 miles an hour, and that alone suffices to show how easy and normal the engines' performance would be

at present-day required and economical speeds of 35 miles an hour or less. Starting ability in cold weather and speed in warming up were somewhat impaired, but not to a degree that would be considered of particular importance in most cases. In extremely cold climates and in the most severe part of the winter, there may be some extra difficulty in starting the half-engine car. If the consumer decides to make the changeover on a car used under such climatic conditions, he will need to take special care regarding lubrication, to see that the oil used is sufficiently fluid to permit the engine to be turned over fairly rapidly when the engine is very cold. (He may use, for example, a mixture of 85% 10-W oil and 15% kerosene in the crankcase at the approach of below-zero weather.)

To determine if increased wear or other adverse effects were caused by operating with only half the usual number of working cylinders, a *Ford* car was dismantled after approximately 5000 miles of operation, and it was found that the mechanical condition of the engine had not been adversely affected at all, and that there was no measurable difference between the unused and the working cylinders. Practically speaking, there was no change in oil consumption per thousand miles.

Conclusions

From these findings, based on very thorough and careful experiments of fully qualified automotive power plant experts, CR would recommend that consumers who have continuous and important use for their car in essential work, give careful consideration to the desirability of having it convert-

ed by competent workmen to the half-engine arrangement. Such conversion should not be attempted unless the power plant of the car is in nearly first-class, or at least good, mechanical condition; probably too it should not be considered if a large proportion of the driving that is done is in hilly or mountainous country where frequent gear-changing would be necessary with the reduced power output. In such a region, there would often be some saving in gasoline consumption, but not enough probably to pay for the extra trouble and sacrifice of flexibility in driving involved in the change over. (Occasional driving, of course, in hilly country would not rule out the change.)

The conversion should be made only by a person thoroughly familiar with repairing and adjusting carburetors, particularly the carburetor which is on the car in question, for the improvement in gasoline economy obtained will depend largely upon the skill with which the necessary alterations to the carburetor are carried out. To do this most efficiently requires that special carburetor parts be made available, with detailed instructions for installation, by the various carburetor manufacturers. They will naturally be unable to do this until the plan for conversion has received official approval, so that they may obtain the necessary priorities for material used to make the parts, approval which, as stated earlier in this article, is not likely to be forthcoming so long as the opinion persists in official Washington that it is not really important to save gasoline. Delay by Washington in reaching a decision would be most unfortunate, for the quantity of critical material

needed to manufacture these small carburetor parts would be exceedingly small, and the possible saving of critical material by its use is obviously very great.

The cost of conversion will depend upon the make of car; some can be changed over in as little as one hour, while others require eight hours. Parts should cost less than \$2 per car, bringing the total up to from \$5 to \$20.

For each car, the problem of conversion is somewhat different, although in general the same, involving the closing off of both intake and exhaust valves by removing push rods. (Any plan by which half the pistons are removed should not be followed.) The spark plugs are allowed to fire as usual (wires of alternate cylinders are not removed). The cylinders to be eliminated are determined by the firing order. On 6-cylinder engines, cylinders 4, 5, and 6 are recommended as working cylinders. On V-8 engines, there are two choices: 1 right, 4 right, 2 left, 3 left; or 1 left, 4 left, 3 right, and 2 right. There seems to be no reason why one of these choices is to be preferred to the other. For Buick and Oldsmobile 8-in-line engines, choice of cylinders 6, 5, 3, 4 is believed preferable.

The consumer may check with the engineering department of the manufacturer of the carburetor, who may be able to supply sufficient information to enable a good carburetor mechanic to make the necessary changes sufficiently well for the purpose.

CR wishes to express thanks to research men of Sun Oil Company of Philadelphia for making available much of the information used in the above discussion.

Mending and

GONE are the days when a garment that has acquired a hole, a tear, or a cigarette burn is blithely discarded or given to the Thrift Shop. Many consumers are discovering that the material and workmanship of their "old clothes," particularly woollens, are so much better than some of the new garments that it is well worth their while to make needed repairs.



The patch shows up plainly on the wrong side.

For some cases the old thread-and-needle method, however, is not required. There are more effective ways of mending certain kinds of tears and holes in dresses, suits, shirts, socks, and household "linens" with mending tapes or cloth coated with some "thermoplastic" material. (A thermoplastic substance is one which becomes sticky and fluid, or plastic, when it is heated, and becomes harder or non-fluid again at normal temperature.)

The stick-on mending idea is by no means new, but is now experiencing a marked revival. So popular have these mending tissues become that one large city ten-cent store has a whole counter devoted to a wide variety of mending tissues, nearly all of which are cement-on materials mostly meant to

Patching the New Way

be applied with the aid of a hot iron. Some consumers may remember a flexible coated material, probably silk, which was sold some 25 to 35 years ago as "tailor's mending tissue"; like the modern materials, this was applied with a hot iron.

Some of the newer thermoplastic mending cloths show marked improvement over their predecessors. They come in several materials, weights, and colors so as to match fairly well many of the clothing textiles. The typical thermoplastic-coated cloth consists of a fabric which is coated on one side with a gum or resin composition which softens with the application of heat. To mend a tear in a garment, a circular or oval thermoplastic patch, or a piece of thermoplastic tape is laid accurately over the tear on the wrong side, then firmly pressed with a hot iron. This melts the composition, which fuses into the material of the garment; when the iron is removed and the garment cools, the patch is bonded to the garment. In the case of a hole, the edges are trimmed carefully, and a piece of the material from the same suit or garment is cut to match and inserted in the hole with no lap-over at the edges, then a piece of the mending tape is cut out, larger than the hole, placed upon the garment, and pressed on with an iron. The mending tape material itself may be used as the patch when it can be chosen to match as nearly as possible the material of the goods to be patched. In this class, the products range from a medium weight for mending stockings to a heavy grade for binding

rugs and carpets.

In using any of these materials, the patches or strips should be cut with well-rounded corners to make them less easy to pull off. The iron must be at just about the right temperature to give good adhesion; if too hot or too cold, the job will be unsuccessful.

Because the correct temperature and the pressure that must be exerted are important and vary with the weight and material being patched, it will be very much worth while to do a little experimentation first on something that cannot be harmed, in order to develop the right technique. After the patch or strip has adhered properly, allow it to cool before it is put to any strain. This applies both to its initial application and after washing in hot water, or ironing, because heat softens the bond, and at such a time the adhesion may be greatly weakened.

The following is a brief digest of CR's tests of a number of these mending materials. The one rated *A* is the only one deemed to give fully satisfactory service under all conditions of use and cleaning that were tried. Of the *B*-rated ones, those which are nearer the beginning of the group seemed somewhat preferable to others.

A. Recommended

Press-On Pants Heel Guards (Chemical Treating & Equipment Co., Inc., 16 W. 61 St., New York City) Two pairs for 10c. Colors black, brown, or gray. Stood up under a two-week period of wear and should be satisfactorily durable; withstood commercial dry-cleaning.

B. Intermediate

Press-On Stocking Mender (Press-On, Inc., 16 W. 61 St., N.Y.C.) 8½ in.



On the right side, the repair is not visible unless one's attention is directed to it.

x 2 in. for 10c. Color light tan. Satisfactory in wearing and washing tests. A stiff material, considered better for heavy than for thin stockings; might not be comfortable on a toe.

Mend-Sox (Mend-Sox, 43 W. 33 St., N.Y.C.) \$2.45 with patches of assorted colors. About on a par with *Press-On* in wearing and washing tests. Material flexible. The chief element in this high-priced outfit is, of course, the electric heating appliance used for fusing the patches into place. It would be considered greatly overpriced for anyone who does not have a great many socks to mend, since the same results can be gotten with an ordinary household flatiron using proper patches. Wider variety of patch sizes and shapes would be desirable.

Smith's Iron-On Rug and Carpet Binding (Gilman B. Smith Co., Inc., N.Y.C.) 10c per yd. Available in large range of colors. Believed satisfactory; finished job looks well. Would probably withstand rug shampooing.

Mendaire Mending Tape Tabs (Mendaire Products Mfg. Co., N.Y.C.) 20 patches of various sizes for 10c; available also in lengths and various colors. Was claimed to be "wash-proof" and so found, but did not withstand boiling; found resistant to two common dry-cleaning fluids. A rather stiff material which would make a patch noticeable on other than stiff fabric; not considered suitable for turning skirt hems as label claims, unless the material were heavy or stiff.

Press-On Mending Tape (Press-On, Inc.) 30 in. x 1½ in. for 10c. Also [Concluded on page 14, Col. 1]

B. Intermediate (Cont'd)

available in $\frac{3}{4}$ in. width and 12 colors. White tape was fast to washing, boiling, several common dry-cleaning fluids. Black similar to white, but came off with boiling, and color ran. Less stiff (and coarser weave) than *Mendaire*. Satisfactory for patching but believed not to be suitable for lasting applique work for which manufacturer recommends it.

Johnson's Magic Liquid (Johnson Products Co., 639 Wells St., Chicago) 25c per tube. A viscous clear liquid, evidently a sort of rubber cement. Although a totally different type of mending material, when used in conjunction with suitable pieces of fabric, it can serve the same purposes as the others described. Held well on all materials tested. One or more applications needed, according to thickness of the material; important to allow each application to dry before applying another, and before joining the materials. Withstood washing and boiling, but did not resist the common dry-cleaning fluids.

C. Not Recommended

Patchall (No manufacturer's name shown; sold in 5-and-10-cent stores) 18 in. x $5\frac{1}{2}$ in. for 5c. A thin material, not containing fabric, intended to be used only between two pieces of fabric. Similar to most of the older materials of this type, but found altogether unsatisfactory.

Smith's Iron-On Mending Cloth (Gilman B. Smith Co.) $5\frac{1}{2}$ in. x 14 in. for 25c. Claimed to be 33% re-used wool; 67% cotton. Color black. Found resistant to two common dry-cleaning fluids. Use limited to heavy goods; not washable in water though washability claimed by maker.



**BUY STILL MORE
WAR BONDS AND STAMPS**

Winter Humidity in Homes —and the Problem of Condensation on Windows and Walls

The consumer has been the recipient of much unsound advice on the desirability of adding humidity or moisture to the air of the home. Such humidification has been asserted not only to improve greatly conditions for health in the home, but also to save large amounts of heat by making the air in a room comfortable at a much lower temperature than it would otherwise be. This article tells why such advice is unsound and why consumers in nearly all cases would be well advised to stay away from artificial humidification—why indeed they may in some cases find desirable in severe winter weather a lower humidity than often occurs naturally in the house.

Humidity and Humidifiers in the Home

THERE IS a steady stream of advertising of devices presumed to improve heating conditions by addition of moisture to the air of the home. One big-city department store, for instance, is now advertising "Make your 63° rooms feel like 70° by this Carrier super-humidifier," and explains that:

Air heated to 70° loses its moisture in the process so that it's as dry as desert air. It sponges up moisture from your body, and the evaporation makes you feel chilly. If you put that moisture back into the air, you can drop the temperature to 63° and, because moisture is not being evaporated from your skin, the 63° feels as warm as the 70°. This goes for old people as well as for youngsters with top-notch circulation. And not only are you chilly in dry air, but parched air rides rough-shod over your complexion, roughens and coarsens it, takes the shine out of your hair, chaps your hands and face, and even irritates your nose and throat and sinuses.

A small-town newspaper prints a very favorable description of the well-known humidifier pans designed to be hung back of radiators, under the caption of "How to cut the cost of Heating your Home, by John

Barclay, America's home-heating expert." As to humidifiers for use with radiators, one manufacturer offers a unit at a price of \$22.50 with the claim that "humidified air feels warmer at a given temperature and is easier to heat." Even a representative of the American Society of Heating and Ventilating Engineers has urged adding a pan of water to radiators as a means of helping heat the home efficiently. He actually recommended that one try to maintain a 40% relative humidity, which is surely bad advice on a number of counts, not the least of which is the potentiality of serious harm to the walls and structural elements of the house and to its exterior paintwork. It must be admitted that the presence of a reasonable amount of moisture within a house or office is desirable for the benefit of books, oil paintings, and especially fine furniture, but it can easily be seen that the requirements here are conflicting, for not over 15 to 20% relative humidity can be maintained with a temperature of 0° out-

doors, if tightly fitting storm sash are not used, since the humidity will be constantly transferred from the air of the room to the windowglass, and there drip down onto the sash and sill, and perhaps to the floor, as outdoor and indoor temperature conditions vary.

Fortunately, few are able to get as high humidity as they are often urged to secure, for to obtain it would require the evaporation of a wholly impracticable amount of water (10 to 20 gallons a day) within the house.

Occasionally this type of misrepresentation of the true facts about humidity is even found in college technical bulletins or the health columns of newspapers, so that it is worth while to find out what is the present view of well-qualified experts. Tests by unbiased investigators upon subjects who presumably were not permitted to read hygrometers, indicate that *increased humidity has little beneficial effect on bodily comfort at the room temperatures formerly customary and recommended, while at the lower room temperatures now being recommended for fuel saving, attempts to increase humidity may have an adverse effect, tending even to increase any sensation of chilliness.* This failure of high humidity to give improved conditions is due to the greater loss of heat accompanying the increased thermal conductivity of the clothing with the higher moisture content of the surrounding air. Thus one runs into the question of the boundary between the supposedly benevolent humidity and the damp air which everyone agrees is undesirable. The American Medical Association has expressed itself definitely to the effect that artificial humidifica-

tion of dwellings is relatively unimportant from the standpoint of health (an exception may be made in the case of certain disease conditions, where a qualified physician may advise humidification of a sick room or living room). It is certain that it is unimportant from the standpoint of comfort.

The maximum amount of water vapor which can be present in air without condensing decreases with lowered temperature; relative humidity is the proportion which the actual amount of vapor present bears to the amount which represents saturation. In cold weather, even at 100% humidity, the actual moisture content of outdoor air is low in comparison with the moisture content of the room air. When this inside air comes into contact with a surface which is much colder, such as the glass of a window, a portion of the moisture condenses on the colder surface. Moisture of condensation on a window causes annoyance and possibly damage to paint, wallpaper, and plaster, if it is not wiped off the wood of the window and sill. Since the warm air of a room has a higher vapor pressure than the colder outside air with its lower moisture content, vapor tends to pass through walls of the room to the outdoors. When this vapor in its travel from the interior to the exterior meets a surface which is sufficiently cold, it condenses there just as it does on windowglass on a very cold day. Thus condensation may occur inside the exterior walls of a house, with the resultant eventual rotting of wood and insulating materials. It can even cause serious damage in houses of brick or stone. Condensation in attics is perhaps more often noticed by the house-

holder than is condensation in outside walls, since in the attic the presence of condensed moisture often makes itself known. Often, in a house with tightly constructed roof with no open windows or louvres in the attic to permit air circulation from outside, water dripping to the attic floor may leak through and stain the ceiling.

For these reasons, unless effective "vapor barriers" are used to bar the passage of vapor through the walls, it is important to keep humidity at reasonably low levels, especially in well-insulated houses. Since the vapor pressure is dependent upon the difference between inside and outside temperatures, the colder the weather the lower should the relative humidity be kept. The U.S. Department of Agriculture Forest Products Laboratory recommends that in order to prevent damage to wood walls and framing of the house the relative humidity inside of houses be not permitted to exceed about 20% in sub-zero weather, and about 30% at temperatures below 15°F.

Humidifiers are available in many forms from the humble radiator pan to small electric boilers and even fountains, as well as the more elaborate humidifying adjuncts to complete air-conditioning systems. Radiator pans, although many people have spent many hours keeping them filled, are, in the main, useless because unless used with absorbent toweling or something equivalent to a wick, they evaporate water at so low a rate per hour as to be practically ineffective in a room or house of any size. Natural sources of moisture in the household often produce more humidity than is desirable and more than would be evaporated by common types of humidifiers; such

sources are respiration of occupants and of potted plants, laundering, cooking, bathing, gas and kerosene heaters not connected to a flue. It is well too to keep in mind that with any type of humidifier that depends upon electricity or other source to produce the vaporization (as the radiator pans do),

there is an appreciable amount of fuel or energy consumed to operate the humidifier. Thus, contrary to claims often made by salesmen and others, no net saving of heat results when allowance is made for the cost of supplying heat by whatever unit or device is used to evaporate the water.

occur until the outside temperature fell to about -5°F .

Lowering the relative humidity of the room air to the degree needed to prevent condensation is not always possible, since moisture is added to the air by normal sources within the house. Humidity also comes into the air of a room by the evaporation of moisture stored in walls, woodwork, furniture and draperies during periods of higher humidity.

Certainly one can and should avoid the common practice of buying and using any device designed to increase the humidity artificially. A number of these have been widely advertised and sold, and some are quite expensive (\$35 to \$60). The only other practicable solution is to open doors and windows long enough to permit entrance of the drier outdoor air, but under present conditions of fuel shortage, one cannot, of course, recommend this practice.

There are artificial (chemical) air-drying means that can be used in special circumstances and for important applications in scientific laboratories and manufacturing operations, but the cost of these makes them prohibitive for residential use.

Keeping the humidity low by avoiding unnecessary evaporation into the air of the room or section of the house, as by keeping doors closed that connect to bathroom, laundry, and kitchen, etc., will help. Under the conditions mentioned in the University of Michigan test, the lowering of relative humidity from the original value of 45% to 25% would mean that condensation on cold surfaces of single windows would occur only when outdoor temperature drops to 14°F instead of to 37°F .

The Problem of Condensation

CONDENSATION of moisture on windows, either as water or as frost, is one of the common annoyances of winter. In the interest of economy it should be kept to a minimum at all times, since whether in the form of water or as frost which will later melt, the water will run down and rot wood sash and sills, corrode the sash if it is of steel, and may even damage paint and wall paper.

Because glass conducts heat fairly well, cold weather results in the chilling of the room surface of the window glass to a temperature at which some of the moisture content of the room air condenses. How low this temperature must be before deposit of condensed moisture begins, depends upon how much lower the outdoor temperature is than the indoor temperature, while the amount of condensation which takes place depends upon a number of factors, including the amount of moisture present in the room and coming into it from other parts of the house, and how active is the circulation of air in the room. The problem is more serious with modern houses than with old-fashioned ones, for with houses which are tightly built and do not have open fireplace flues to draw air in from outdoors and constantly change the air indoors, the infiltration of the drier outdoor

air is much less, and the humidity of the air in a tight well-insulated house tends to remain at a higher level than in a house which is "thermally leaky," and is poorly insulated or not insulated at all. Thus the best modern house tends to give the most trouble with condensation on walls and windows. The condensation of moisture on metal sash can be fairly serious, and the total condensation on a metal sash window including both metal and glass would be considerably greater than on a wooden sash of equal area, though the temperature of the glass will be approximately the same in both cases.

There are only two practical methods by which condensation on windows can be overcome: (1) by raising the temperature of the inside surface of the glass, and (2) by lowering the humidity of the air in the room.

The first is most readily accomplished by the installation of a tightly fitting double window (storm sash). Experiments at the University of Michigan showed that with wind blowing, and with room air at 70°F and 45% relative humidity, condensation took place on a single window at an outdoor temperature of about 37°F , while with the installation of a double window, condensation on the inside window did not

Making the Most of Your Meat Ration

By B. W. GARDNER, JR., UNIVERSITY OF ILLINOIS

TO MAKE THE best use of meat ration of less than 2 pounds of meat per person a week will take careful planning. It will also require a more complete utilization than heretofore of the fat, lean, and bone so that there will be a satisfactory amount of meat in the diet.

It is quite evident that at least a part of the rationed amount of meat must consist of bone if the consumer expects to have a variety of meat. Consideration of the quantity of bone to be found in different cuts of meat will be helpful in planning an efficient use of the meat ration. A comparison of the groupings given in Table I will show how much bone different cuts of meat contain.

The consumer will turn to buying more cuts of meat with the bone removed in an effort to obtain more edible meat on his ration card. This procedure may prove to be false economy both in money and in effective utilization of the meat purchased, unless certain precautions are observed. It is never wise, for example, to purchase boned cuts of meat from the display case because of the butcher's practice of including parts of the original cut that are less desirable and sell for less per pound. A better plan is to purchase the cut of meat in question and then ask the butcher to bone it at your direction. An excellent example of this method is illustrated by the procedure to be followed in buying a beef rib-roast. From the rib end can be cut two sets of short ribs. This eliminates the less desirable part of the standing rib-roast which the

butcher often includes in those rolled rib-roasts he has on display. Have the butcher saw through the ribs and loosen them from the backbone so that this cut may be served as a standing rib-roast hotel style.

An even thrifter plan is to have the butcher remove the bones, leaving a little more meat on them than would ordinarily remain. These bones may then be used as soup stock. By preparing them in a pressure cook-

er and adding a variety of vegetables a tasty beef-vegetable soup can be served. Thus a two-rib standing rib-roast weighing 7 pounds can be made to serve the following dishes: A company-for-dinner *roast* weighing 3.5 pounds from which there should remain some leftover for sandwiches or hash for the next day's lunch. The 1.5 pounds of *short ribs*, cooked with vegetables, which will supply the meat for the principal

Table I—Percentage of Bone Found in Various Retail Cuts of Beef, Lamb, and Pork

Percentage Group	Beef	Lamb	Pork
0% to 5% bone in the retail cut	Hamburger Stew Flank Steak Various boned cuts	Stew Lamburger Various boned cuts	Sausage Bacon Boston Butt Slices Center Ham Slices Various boned cuts
6% to 10% bone in the retail cut	T-bone Steak Sirloin Steak ¹ Porterhouse Steak ¹ Club Steak Round Steak Chuck Steak Cross Arm Chuck Roast Brisket Boil Plate Boil	Loin Chop Leg of Lamb Slice Cross Arm Shoulder Chop	Ham (entire) Boston Butt Roast Boston Butt Slices
11% to 15% bone in the retail cut	Sirloin Steak ¹ Rib Roast Rib Chuck Roast Rib Steak Pot Roast Rib Ends	Leg of Lamb Rib Shoulder Chop	Picnic Picnic Ham Slices
16% to 20% bone in the retail cut	Rump Roast	Rib Chops Shoulder Roast	Pork Chops Pork Loin Roast
40% or more bone in the retail cut	Shank Soup Bone	Lamb Breast Lamb Shank	Spare Ribs Neck Bones Pigs Feet

¹ Careful inspection should be made when purchasing sirloin steak. Of the five kinds of sirloin steaks (butt end, wedge bone, round bone, double bone, hip bone) the double bone and pin bone or hip bone sirloin steak contain an additional 7% bone above the other three kinds. The hip bone or posterior porterhouse steak also has nearly 5% additional bone, because on one side it contains a T-bone, only, but the other side has a great deal of bone and is identical to the last sirloin steak. Therefore always ask to see both sides of a steak when purchasing it. Whenever possible this cut should be bought only at sirloin prices.

meal for another day. Two pounds of *soup stock*, which will furnish soup for at least two meals. In this way the week-end meat shopping will help the menu until the middle of the following week.

Other cuts of meat that are adapted to this sort of planning are rib chuck roast or blade pot roast and rump roast. A second consideration in following this plan when purchasing boned cuts is that the bones which are not desirable for soup stock can be used as a source of protein and minerals in the dog's ration. Since it is becoming difficult to secure good-quality dog food, this is an important consideration.

Consideration of the fat content of the meat ration will also be helpful. A certain amount of fat is desirable in meat, particularly on the outside of steaks or roasts, to furnish energy and to increase its palatability. In the cooking process part of this fat is rendered.² This is the liquid fat left in the bottom of the pan after the meat is cooked. Part or all of this may be used in making gravy. In those instances where gravy is not made, or when not all of the fat is needed to make the gravy, *this fat should be saved*. Particular effort to use or save all fat should be made during the war emergency. One method by which this can be accomplished is by trimming the fat from excessively fat pieces of meat after it has been cooked. These pieces can be given additional rendering until all the fat is melted. This fat should be saved with the fat remaining from the cooking process.

The government has asked that all fat be collected in an

effort to increase the supply of glycerin (glycerin, or glycerol, is found in all fats) that is necessary for the manufacture of munitions. The conservation of fat includes more than the salvaging of meat "fryings" or "drippings" and turning them in at the local meat market. The fat that is obtained from meat cookery should be divided into three groups. The first group is the fat saved from cooking cured meats and seasoned meats; this includes hams, picnic, cured (shoulder) bacon, sausage, etc. The second kind is the clear fat saved from the cooking of steaks, roasts, etc. A third kind of fat to save is that of a less desirable nature. This might include fat from a burnt piece of meat, fat from the cooking of lamb, which often has a mutton odor, and other less desirable sources. All three kinds should be strained through cheesecloth.

The fats in the first two groups may be used for cooking. Fats from seasoned and cured meats can be used in pan-frying, braising, and the seasoning of vegetables. These fats impart a zestful flavor that might not otherwise be obtained. The clear fat of the second group can be used as shortening in baking or in any way that lard can be used. By salvaging these fats and using them in the home, some of the pressure on shipping facilities can be relieved. Such conservation measures will also help directly in the production of glycerin by reducing the number of hands the fat must pass through and also allowing grades of fat to be released for glycerin production that will require less processing. Furthermore the use of good leftover fat in the home will increase the efficient utilization

of each pound of the meat ration. *All salvaged fat that cannot be used in the home should be turned in at the neighborhood meat market.*

The use of sundry or specialty meats will aid materially in extending the meat ration. Sundry meats include liver, heart, sweetbreads, tripe, kidneys, brains, ox tail, and tongue. These meat specialties will add variety to menus and most of these cuts are economical. The glandular meats are higher in certain important vitamins and minerals than are the muscle cuts of meat preferred by the average consumer. Liver should always be served at least once a week. Pork liver is usually less expensive than other kinds of liver and contains four times as large a quantity of those valuable nutrients which make liver so important in the diet. Since most of these sundries are boneless, a pound of purchased specialty meat means a pound of edible meat.

The consumer should be warned against buying some very questionable marginal cuts of meat such as pig's ears, pig's tail, and snout. Recommendations for this kind of meat may be made by unscrupulous butchers or uncritical popular magazines. The nutritive value of such cuts is very low. The use of various "meat extenders" which are on the market under different trade names may be a satisfactory method of stretching the meat ration in so far as their major ingredient is soybean flour. Great attention must be given to the proper methods of cooking meat so that the limited supply can be most effectively used, kept fully digestible, and its vitamin and mineral values so far as possible preserved till the meat is eaten.

² This is a loose use of the term "rendering" as applied to meats, meaning to melt the fat from the tissue of the meat.

Off the Editor's Chest

[Continued from page 2]

pay, and their criticisms of the skimpiness of seams and hems. Brief reference to material in our files showed that the government is not only encouraging the blending of rayon and cotton with wool in fabrics intended for civilian use, but it is *rewarding manufacturers who practice adulteration* of virgin wool with certain fibers, and discouraging the production of all-wool fabrics. At one time, indeed, the government had under consideration a mandatory order specifying the amount of new wool that would be permitted to be used.

It is well-known to government experts that a garment of high-quality wool keeps its press and general good appearance, and wears better, all things considered, than one which is part wool and rayon or cotton. Only for garments such as women's dresses, where hard wear and warmth may not be significant, and newness, up-to-dateness or fashion are more important, is a high content of all-new-wool of little consequence. For men's suits and overcoats, women's, children's, and infants' outerwear, there is no substitute that can be considered in a class with 100 percent virgin wool.

Fortunately the textile trade appears to have convinced the OPA "experts" that it is desirable to turn out some all-wool fabric for civilians, and apparently for this reason, the governmentally-enforced adulteration order has still not been fully put into effect. Recently, indeed, an order of the War Production Board which had prohibited the manufacture of men's, women's, and children's bathrobes from all-wool fabrics has been modified so that manufacturers have been permitted to resume making of all-wool bathrobes—for the avowed purpose of providing warm garments to help cope with the problem of drafty houses made cold by the fuel shortage.

Many automobile owners have discovered to their sorrow that there are a number of fake and harmful anti-freeze liquids being sold, based on the use of calcium chloride, which play havoc with the inner workings of an automobile. CR subscribers have been warned against the use of these preparations in three recent Bulletins, and just as our February BULLETIN with a detailed treatment of the topic went to press, the War Production Board prohibited further manufacture of such anti-freezes. The Office of Price Administration, on the other hand, according to official announcement, had made its contribution to the protection of consumers by fixing a price for the calcium-base anti-freeze solutions, at 75 cents a gallon instead of the general price for anti-freeze liquids of \$2.65.

At any price, these products would have been expensive, and the consumer may be pardoned for wondering if the activities of the consumers' section of the OPA consist solely of issuing press releases announcing personnel and plans for future conferences.

One case of government-required lowering of quality should have come to the attention of the inquiring OPA official from reading the daily papers. One of the officials of the Meats Division of his own agency, for example, was reported in the New York Times as announcing in a speech to a group of independent meat packers that the existing variety of cold cuts, sausage, and hot dogs would soon be replaced by one standardized product. The new "victory sausage," as he described it, was to consist of some meat and an unspecified amount of substitute—which in consumers' language is adulterant or filler.

There has been a Federal regulation which permitted no more than 3.5 percent of cereal in sausage shipped in interstate com-

merce, and some states, the better to protect their own consumers, have regulations that are still more rigid. It is true that there is a meat shortage—one that seems to have been created primarily by the artificial imposition by the OPA of "price ceilings" which induced a natural and predictable flow of meat supplies to those sections which happened to have had high retail prices of certain cuts and varieties in March 1942, the base period for setting current "ceiling-prices." But from a consumer's point of view, it would be far more satisfactory if he were permitted to purchase whatever amounts are available for civilian use so that he may make his own decisions about stretching or adulterating the product to suit the health and dietary needs and personal tastes of himself and his family. The bureaucrat, *thinking in general average and statistical terms*, is incapable of allowing for the fact that different people have different needs and different digestive capacities and tolerances, that millions, particularly of older persons, indeed have allergic troubles requiring that food be selected and prepared correctly for their personal requirements.

There are other substitutions which have been forced on manufacturers by governmental restriction orders that have been of a most fundamental character in causing "grading down" of products. Thermos bottles, for example, which used to be reasonably well rust-proofed, or made of non-rusting material, are now unprotected from corrosion, and their useful life will be cut to a fraction, perhaps to 1/5 or 1/10, of the former value. The prices for these much less desirable bottles are perhaps higher than for the previous product, but there has been no saving to the manufacturer in the deterioration nor has he been a party to the wrong done consumers; as a matter of

fact, in most cases it has cost him more to produce the poor bottles being made at the present time than the former durable ones.

In the case of a number of other items, we are certain that the savings of metals or other essential material involved to produce the lower grade article are of so small magnitude as to be inappreciable in the total consumption of critical materials. One manufacturer, for instance, who has been ordered to do without 50 pounds per year of essential plating material for articles used in chemical laboratories knows very well that the net saving to the war program of this elimination of plating is utterly trifling, or negligible, but the net loss to the war program of having laboratory equipment rust out promptly and give inferior performance during its working life is real and considerable. We think much could be done to re-plan these limitations upon manufacturers in such a way that when they are forbidden to use a vital material, it is done only in cases where the gain really outweighs the loss to the consumer of the product, for the consumer if supplied with shoddy products must soon again call upon scarce material and labor to replace them.

Most informed consumers who are aware of the tremendous magnitude of the requirements of the military arms for metals and other vital materials are not surprised at the fact that many familiar products made under war conditions are not of such good quality as those manufactured earlier. On the other hand they will wisely make every effort to search out and purchase those products that have been deteriorated as little as possible, and so far as possible will buy from firms that have succeeded in resisting the bureaucrats' pressure for jerry-building of consumers' goods and pointless cheapening of fabrics, appliances and hardware. Those who were fortunate enough to buy the last of the pressure cookers before the War Production Board shut down

on the use of metal for almost all consumer goods were quite pleasantly surprised to receive a guaranty from one company that after the war a trivet or disc in the bottom would be replaced by one of stainless steel without extra charge.

The spectacle of one section of a government war agency asking for information to combat deterioration of quality when another government war agency is *forcing* manufacturers to degrade quality of products is hardly calculated to inspire confidence in the wisdom, efficiency, or common sense, of those in positions of great responsibility. If consumers who pay the bill must take it on the chin, they expect that at least the government will not aid in the process of directing the blow. Why should not Congress abolish all the so-called civilian procurement and civilian supply divisions and save at least some few items of outlay for heavily-burdened tax-payers?

If civilians really are entitled to the necessities of daily living, and if morale on the home front is considered essential to winning the war, let's get rid of the multitudinous alphabet agencies that are nominally in charge of supplying civilian needs and hire a couple of old-fashioned fellows, good, solid, experienced executives who are used to producing results in a specified time—or else. Consumers in times past have had much to criticize about the kind of distribution, quality of merchandise, and the sort of price levels provided by the diverse manufacturing and commercial activities of our country, but the kind of planning, and the amount and quality of supplies that we are now getting as the results of the efforts of those who call themselves "government planners" would speedily put any ordinary business into receivership.

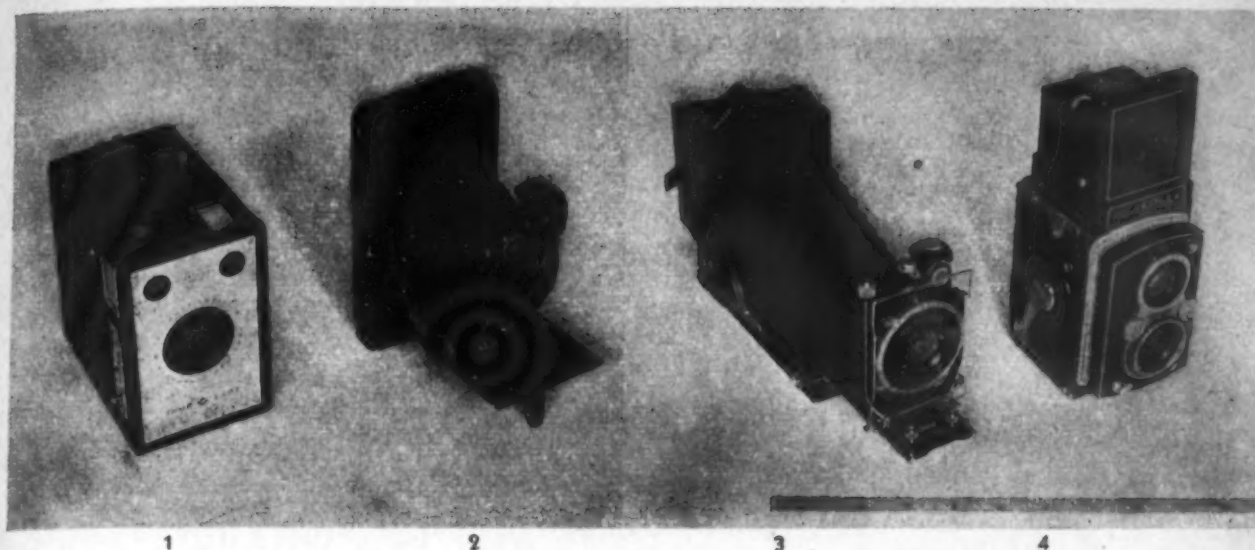
We do not refer to those shortages that are inevitable and inherent in the deficiencies of the materials that remain available for civilian needs. We *do* refer to those shortages which result from lack of knowledge, ability, or experience in management of gov-

ernmental agencies and officials, who are so numerous that, far from furthering the supply of goods, they get in each other's and consumers' way with their endless orders and directives, and contradictions in and reversals of policy. They are in fair way to bring the whole system of providing goods and services for civilians to a grinding, creaking stop with the gravest imaginable wrench to the economic health and life of our country.

There are some who believe that, in spite of OPA's bungling efforts, it has been effective in holding prices down. In some cases it has—and has cut off the flow of goods as well. It is no great achievement to hold prices down if the means used stop business from functioning. In many cases, the holding down of price has been strictly a fictitious and paper phenomenon. The consumer may have paid the old price perhaps in the grocery store, but the *actual* price paid was, in many cases, considerably more. The customer may pay 6c to 7c a pound for sugar to the grocer and an unknown but sizable additional number of cents per pound in taxes to support the rationing and price-control officials and economists—not to mention the time and inconvenience involved for refiners, brokers, grocers, and consumers alike.

The thinking consumer will prefer to pay for his goods as he buys them at the store and not "kid himself" by paying the governmentally-fixed price, with an elaborate mechanism on the side for ostensibly keeping prices down by subsidies of one sort or other that will take a higher and higher but always unknown percentage of his income in the form of taxes.

Sooner or later children learn that there really isn't any Santa Claus and that the money for Christmas presents comes out of the family income or bank account. And now everyone is on the point of learning that you don't *really* get sugar or coffee cheaply merely because Washington fixed a "ceiling-price" for it.



Typical Cameras

1. Simple modern box camera, priced at about \$2.50. 2. Roll-film camera, single extension. Cameras of this type sold, before the war, for about \$35, up to about \$75 when equipped with top-grade lens and shutter. 3. Plate and film-pack hand camera, double extension. Pre-war price, about \$55. 4. High-priced twin-lens reflex camera of a type lately very popular with the experts who are able to afford \$200 or more.

Choosing a Camera for a Beginner — I

UNDER PRESENT CONDITIONS in spite of the shortage of top-grade and high-priced cameras, there continues to be a surprising amount of interest in photographic equipment and photography. There is naturally a special interest on the part of consumers in equipment of sorts that are specially adapted for use by the beginner, since such cameras are still pretty generally available.

The notable renewal of interest in photography at this time is in part due to the desire of men in the armed forces for pictures of their relatives, friends, and familiar scenes back home. Many of the home folks have never handled a camera before, or have only taken snapshots under conditions eminently favorable for success. Often they hesitate to ask for aid from friends who do have some photographic skill for fear they will be confused by a hardly comprehensible discussion of circles of confusion, coma, or

chromatic aberration. All such terms can be very discouraging to a person wanting to learn something, but not too much, about the photographic art.

CR feels that many of these newcomers to photography can learn what they need to know without being confronted by information of too technical or too detailed a character. With these various considerations in mind we begin a series of articles dealing with the more elementary phases of the fascinating hobby of photography, with which we believe everyone in these times should have some degree of familiarity.

Many who enter upon photography get into it in an unnecessarily expensive way with needless disappointments in the things they buy. Possibly this has been the result of high-pressure and indiscriminating salesmanship in the advertising and "trade puff" columns of the photographic magazines and in newspaper stories

and on the part of retail salesmen. For a person with no previous knowledge of photography, the initial visit to a camera store for the purpose of buying equipment for a first attempt at the hobby is likely to prove discouraging, and the prospective purchaser will wonder if he ever can learn enough about the art to be a match for the glib salesman (who usually doesn't know very much about photography, but does know the words). If the consumer does buy, he is fairly likely to leave the store much lighter in pocketbook, but burdened with a host of gadgets which are at best unnecessary, and at worst actually detrimental to advancement in his chosen hobby. If he had a measure of sales resistance, quite likely the prices quoted for the equipment which the salesman has represented as an irreducible minimum, and the complications and uncertainties envisaged in the use of it, will

have discouraged him entirely.

The man who is content to photograph what he likes and let the photo-finisher do the rest needs only a camera, and perhaps a tripod. His chief job is therefore the choice of a camera which will suit his taste and his pocketbook. The simplest is of course the box camera, the price of which begins at about \$1 and goes up to about \$4.50. The advice is often given to start with a camera of this type, learn its capabilities and limitations, and then progress by degrees, with a slightly more complicated camera each time. CR does not recommend this procedure though it works out splendidly for the dealer who makes a profit on each exchange and naturally encourages repeated turnover of equipment. For one who wishes merely to record interesting events in the form of small snapshots pasted in an album, the box camera will no doubt be entirely satisfactory; with the average outdoor subject, the distortion in an unenlarged snapshot taken with a single lens will not be offensive.

Anyone who wishes to take up photography as a hobby, however, will learn nothing of value from the use of a box camera which cannot be learned equally well with any other type. Because the box camera has a "fixed" focus (i.e., requires no adjustment of the distance between the lens and the film to correspond to changes in the distance between the scene and the camera), or at best a choice of two positions representing "distant" and "near" objects, and a very limited range of exposure combinations, the user will become so accustomed to ignoring focus and exposure adjustments that

he will tend to continue these bad habits, even though he knows better, when he graduates to a better camera. It is therefore advised that the beginner who can afford to do so secure at once a reasonably good camera, although not a needlessly complicated one.

Neither the price nor the popularity of a camera are any criterion of its quality, as measured by its ability to produce sharply defined and undistorted pictures. In fact, the very rapid lenses found on the most expensive and popular models are notoriously deficient with respect to the sharpness of the images which they are capable of projecting upon the film. The finest of such lenses are subject to severe limitations imposed by basic optical principles, since practically every other desirable attribute has to some extent been sacrificed to mere speed or light-gathering ability, determined by the diameter of the lens in relation to its focal length. (Focal length is roughly the distance from the film to the center of the lens when the camera is focused on a distant object.) Many of these very modern lenses aren't nearly as good as old-fashioned slow lenses, nor as good as they could be if properly designed and carefully manufactured. The consumer will do well to avoid especially any lens the name of which includes the syllable "tri," since these are as a rule inferior lenses made of only three components (for the sake of reducing manufacturing cost).

A camera which has been used with reasonable care is subject to much less mechanical wear than is, for example, an automobile. An excellent used camera may often be acquired for a fraction of the cost

of a new one. Especially is it often possible to find a camera with a superior, but relatively slow and therefore unpopular, lens at a most reasonable figure. For example, a No. 1 Special Kodak with f:6.3 Bausch & Lomb or Zeiss Kodak Anastigmat, Tessar, or f:6.8 Goerz Dagor lens is a better optical instrument, in the sense that it will take sharper pictures, than any more modern camera of the same general type or style, but with a superfast f:2.9 lens.

The difference in favor of the old-fashioned camera would not be noticeable to the casual observer of contact prints, but will become plainly evident in enlargements involving even moderate magnification. There are some perils in buying used cameras, as with any used merchandise, but the risk is much less, as a rule, with used cameras, and may be little more than in buying a new camera, if the purchase is made from a reliable dealer only, such as those whose secondhand camera stocks have been recommended by CR.

There should be an agreement, preferably right on the sales slip, that the purchase price will be refunded (in cash) if a test indicates that the camera is in any way defective, or if the lens fails to meet the buyer's requirements as to quality of optical image. Similar procedure on the part of buyers of new cameras would no doubt cause much unhappiness among dealers, but should result in reducing the amount of optical junk on the market, chiefly in "novelty" cameras.

One vulnerable point of old cameras is the bellows. If the bellows is of cloth rather than of leather, the camera had better not be bought unless it is a rare bargain. If it is leather,

check carefully that it is free from pinholes, that it has not become dry, brittle, or powdery and that it shows no worn spots that seem about to go through. The front, which carries the lens, should be strong and rigid, though this was a characteristic rarely found on *Kodaks* even when otherwise of fairly good construction. Moving parts should work smoothly and without undue looseness or shake. A careful test with a test chart (or lacking that, a sharply patterned wall of good contrasts), using the focusing scale of the camera, checks simultaneously the lens, the optical alignment of the camera, and the accuracy of the focusing scale. If the image is unsharp to the same extent over the entire surface of the negative, it may be that the focusing scale is out of its correct position; this is easily changed. If the negative is sharp at one side but unsharp at the opposite side, the probability is that the front of the camera has become misaligned; this fault is difficult, but not impossible, to remedy. If the image is sharp at the center but plainly unsharp at corners, or vice versa, the lens is a poor one, and the camera should be rejected. Sometimes an old shutter will be found to give erratic operation; in many cases a competent repairman can fix this at a cost which will still make the camera a bargain. But any serious difficulty with a shutter at this time is a hazard, for shutter repairmen of competence are scarcer and scarcer as more of them are called into war activities.

The choice of camera is governed by the kind and variety of work required of it.

For simple landscape, portrait, and general photography, a camera with single-extension

bellows and rigid back, and focused either by scale or by coupled range finder, is satisfactory (and don't give too much weight to the coupled range finder, which is convenient, but by no means necessary). In this classification are most of the miniature and folding roll-film cameras.

The next group includes the roll-film reflex cameras, the fixed-back single-extension plate cameras, and most reflex plate cameras. (The term "plate camera" designates that type of camera which accommodates glass plates in holders or magazines, cut film in holders or magazines, and film-pack adapters.) In the case of the ordinary plate camera in sizes to and including 4 x 5 inches, a reversing or revolving back is a convenience but not a necessity. (The reversing back has to be removed in order to turn it through 90°. The revolving back can be turned without removal. Both permit horizontally-composed or vertically-composed pictures to be taken without turning the heavy camera body itself.) For a reflex camera (such as the well-known *Graflex*) when its plate or film size is other than square, or nearly so, a reversing or revolving back is virtually essential, since it is most inconvenient and often impracticable to use a reflex camera tipped up sidewise; this is particularly important in the larger sizes. Either the "plate" or reflex camera gives the advantage of ground-glass focusing, permitting the operator to secure accurate focus by inspection of the image, and to compose the picture more readily than with a camera equipped with small view finder only. Reflex cameras, of course, give the greatest convenience for fo-

cusing, but along with this goes considerable bulk and weight for the given size of the picture—which will often rule the *Graflex* type of camera out, especially in these days when more of the picture-taking must be done afoot or awheel, and less by automobile.

The third group comprises ordinary and reflex plate cameras equipped with double-extension bellows, which make it possible to reproduce drawings or pictures, or take close-ups of small objects (e.g., flowers, geological specimens, etc.) where reproduction of fine detail is required. If interchangeable lens boards are provided, a lens of longer focal length may be used to obtain larger images of distant objects. Regardless of what the salesman may say, do not place your reliance upon supplementary lenses for either decreasing or increasing focal length, for with their use, the fine performance of a first-class lens will be impaired.

There are also view cameras. These are not much used by amateurs, but since they provide a wide range of adjustments, are the most versatile of all and valuable for the advanced expert or the scientific worker who uses photography as an important adjunct to his work. The simplest view camera has at least double- or triple-extension bellows, rising and cross front (vertically and horizontally adjustable), reversing or revolving back, tilting and swinging back (adjustments permitting an angular relation between the plane of the film and the plane of the lens); some have also tilting and swinging lensboards.

Discussion of the various types and sizes of cameras will be continued in a later article.

Simple Alarm Systems for the Home—I

UNDER wartime conditions, many people must work longer hours than usual or the menfolk must be away from their homes for protracted periods. On this account, there is more than a normal need for alarm devices to be installed in the home, barn, or garage, and connected to one's house, or the home or office of a neighbor or friend nearby to give notice of fire or of the entrance of an intruder.

Many consumers will undertake to raise chickens and other livestock on a small scale, and in their case, the warning of the entrance of a thief or animal intruder may be important. For the most part articles on such alarm devices have been published in technical journals and have not been practical for application by the layman or an average radio serviceman employed for the work. With these conditions in mind, CR will present two articles on alarm systems, that may be used for protection of the home, barn, stable, chicken coop, or kennel. Chiefly because of the present scarcity of photo-cells and their probable disappearance from the market in the near future, the first article will treat photo-electric cell detector units. Only those having real need for the equipment should consider purchasing photo-cell equipment or accessories at this time.

BUT A FEW YEARS AGO, photo-cell units were rarities and among the wizardries of the scientific laboratory; to the layman they have most commonly been known as the "electric eye." Lately these devices have found wide use for counting operations in factories for the rejection of miscolored, off-sized or unlabeled articles or packages on a production line, for the prevention of intrusion by thieves or other unauthorized persons at night into unguarded homes, offices, and factories. The photo-cell reacts instantly to a change in the amount of light which is falling upon it, whence if it is steadily illuminated by a narrow beam of light from a lamp, an interruption of that beam by the passage of a person or animal through it may, by the operation of a vacuum tube and relay intermediary, be made to light a light, ring a bell, or in some other way sound an alarm at a distant point. In the accompanying diagram (which is designed for a-c operation at 110-120 volts) as long as light falls on the photo-cell, sufficient current flows through the plate circuit of the 25A6GT tube and through the field coil of the relay to hold the contacts closed. If the light beam is interrupted for more than a fraction of a second, the current decreases promptly, and the contacts open, sounding the alarm. After the unit and its light source are suitably located and installed, the 3-megohm potentiometer, R3 in the diagram, which acts as a "sensitivity control," is so adjusted that the relay contacts just remain closed with the light beam on. (It is important that there shall be as little light as possible falling on the photo-cell

from any source other than the light source which actuates it.)

Such a unit may be made from parts readily available from mail-order radio supply houses, at a cost for parts of about \$10 to \$15, based on net prices usually charged to mail-order purchasers. (This price estimate does not allow for recent price increases due to shortages imposed by the defense program.) A few commercial ready made photo-cell units, some including built-in bells, etc., can still be found by those who know their radio-parts supply sources, but prices of reasonably good ones are usually high (\$15 to \$30). (The low-priced "experimenters' units" or demonstration "electric eyes" are not regarded as suitable for burglar-alarm work.)

The light source may be an automobile headlight bulb, with suitable low-voltage transformer. In situations where a relatively weak light will serve, a low candlepower automobile lamp bulb can be used, operated from a doorbell transformer; or if a stronger light is necessary, a higher candlepower, auto or truck headlight bulb fed from two properly connected doorbell transformers in parallel. A car or truck headlight bulb, due to its longer life, is perhaps preferable to a projection-type bulb, especially if operated at a considerably lower-than-normal voltage. The light is focused on the photo-cell by a lens of 1- to 2-inch diameter, of from 2- to 5-inch focus. (Longer focus gives a smaller and more efficient light-spot.) Either the correct length of the lens tube or holder can be determined by experiment, or the lens mounted in a slidable tube for focusing. (Lenses, 50c to 75c from Bausch & Lomb, Rochester; more cheaply from Harry Ross, 68-70 W. B'way, N.Y.C.) A ready-made light source, complete with bulb and lens, may still perhaps be found at about \$4 in stocks of some radio supply dealers. Low visibility of the light beam is gotten by inserting in the beam, as near as possible to the source, a deep-red filter. The Wratten 87 in gelatin (available from Eastman Kodak Co.) or Corning 254 (glass) cuts off nearly all visible light, but passes a large proportion of the infrared in the wave lengths to which some photo-cells are most sensitive. An article in a popular magazine stated that several sheets of black cellophane make a satisfactory filter; if so, the problem of producing a workable filter at much lower than ordinary cost is solved. In any case, the gelatin filter is considered more desirable to use than glass. CR's study did not include a test of the various filter units that might be employed for producing an invisible beam.

The Capacity-Operated Relay System

Another type of alarm system is called a ca-

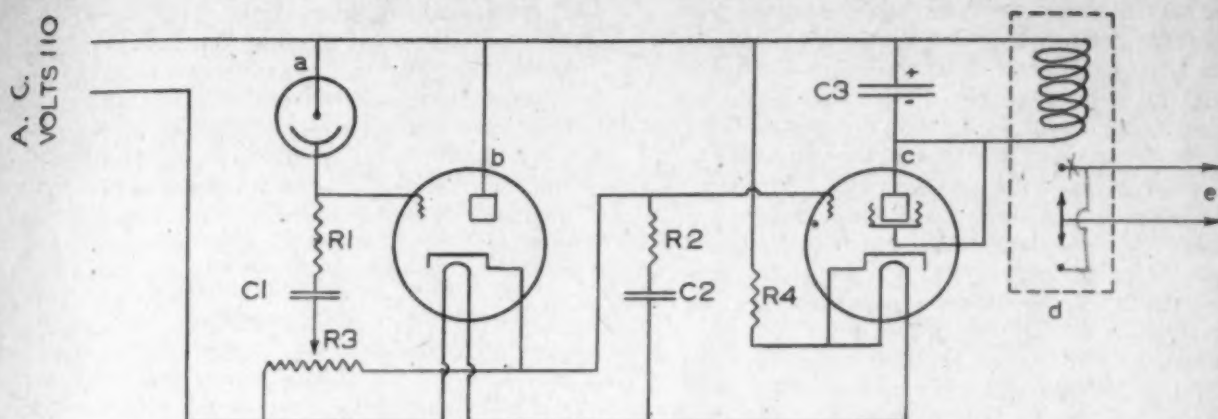


Photo-cell type burglar alarm.

a—Photo-cell—any of several tubes of the photo-emissive type (see text for discussion of available types) will serve. b—Vacuum tube, Type 6F5GT. c—Vacuum tube, Type 43, Type 25A6GT or Type 25A6G (Type 25A6 will also serve). d—Relay, single-pole, double-throw contacts, 2500 ohm coil. This relay is adjusted to have an unusually strong spring tension, so that when the armature flies to its "up" position upon current through the coil being cut off by an interruption of the light-beam (through the action of the photo-cell), the armature stays "up" and does not return to its "down" position until pushed down by the finger. With this arrangement, when even a momentary interruption of the light beam occurs, the relay armature moves "up" and stays in that position, continuing the contact so made (by which the alarm circuit was put into operation). e—Line to connect with alarm system. R1—10 to 20 megohm resistor. R2—500,000 ohm resistor. R3—3 megohm potentiometer. R4—270 to 290 ohms—of the line-cord-resistor type. C1—0.0001 mfd. condenser, mica dielectric type. C2—0.1 mfd. condenser, paper dielectric type. C3—8 mfd. electrolytic condenser, 250 volt rating. **Note:** There is an error at the extreme right of the diagram where the lines e should connect to the middle and lower terminals of relay d instead of to the middle and upper terminals as shown. The middle and lower terminals in the diagram correspond to the "up" position of the relay referred to in the description of d above.

A number of miscellaneous parts such as wire, tube, and photo-cell sockets, metal cabinet, chassis, etc., will be needed. (Total price of these may range between \$3 and \$5.)

capacity-operated relay. This depends upon oscillation in a vacuum tube circuit, and the mere presence of an electrically conducting object or person near an antenna (or an equivalent part of the apparatus) causes the relay to operate. Such devices, however, are somewhat unstable and uncertain in their action, particularly if constructed in an inexpensive, non-professional way; they are therefore not discussed in this article.

Sources of Supply for Parts

Aside from the photo-tubes, the parts necessary to construct the circuit described may be purchased from a radio supply dealer or jobber, or one of the large mail-order radio supply houses, such as Allied Radio Corp., 833 W. Jackson Blvd., Chicago; Burstein-Applebee Co., 1012 McGee, Kansas City, Mo., or Radio Wire Television, Inc., 100 Sixth Ave., New York City (also in Newark and Boston).

Usually the miscellaneous items, or most of them, that are required for making up photo-cell and other alarm circuits of various kinds can be purchased from "radio junk" dealers, found in most large cities, who resell a wide variety of items rescued from radio sets and similar elec-

trical equipment that have been sent to the scrap heap.

There are a number of well-known manufacturers who produce photo-cells, but at the present time the manufacture of these except for military and munitions manufacturing uses and under high priority is prohibited. On this account, CR has specially investigated the present retail sources of photo-cells.

The cell of which a reasonable number remain available that appears to be best suited for the circuit illustrated is the G9 (made by General Scientific Co., and available from Allied Radio Corp., 833 W. Jackson Blvd., Chicago).

A relatively insensitive type of cell can be had from Blum the Radio Man, 64 Dey Street, New York City. This is known as CE-1X, and is somewhat limited in its application because it will work satisfactorily only when a considerable amount of light is available. For many installations, however, it will likely serve as well as any other. CR will give information, so far as practicable, on other sources where a person having essential use for this type of alarm device may be able to obtain a suitable photo-cell. Readers will understand that at the present time the problem of purchasing photo-cells is far more difficult

than normally, and there will be greater variability in the product and less certainty that any particular standard or characteristic will be met in a given individual cell. (The same is true to an increasing extent with vacuum tubes, some of which are exceedingly scarce at this time due to the action of governmental priorities. This situation, however—as to vacuum tubes—is expected to be relieved by about the end of February, and if relief does not occur, there will be a very serious tie-up of some millions of necessary radio receivers and similar equipment.)

There are still other possibilities, for there are several other light-sensitive means, even of a homemade character, that can be used if necessary to produce an electrical response to light or the cutting off of light, in an alarm circuit. Fortunately, even if the retail market is completely depleted of photo-cells, a solution to the problem remains possible through certain old-fashioned and now little-used radio vacuum tubes; certain of these can be made to give response to changes of light falling upon the grid, and this possibility will be discussed and circuits shown if readers are sufficiently interested

in homemade burglar alarm systems. (Photo-cells and also scarce vacuum tubes needed for essential warplant use can of course be bought on appropriate priorities from RCA Manufacturing Co., and photo-tubes from General Scientific Corp., 4829 South Kedzie Ave., Chicago; Continental Electric Co., 903 Merchandise Mart, Chicago; Central Scientific Co., Chicago; and others.)

It should be noted that all burglar-alarm devices are capable of operating occasionally when apparently nothing has happened to cause an alarm, so there is at least some danger that some quiet night may be punctuated with the unexpected and unwarranted din of the alarm bell. Such an occurrence can take place when a usually good contact is broken by corrosion caused by dew or other moisture, or perhaps even by the prowling about of the family cat.

Our second article will discuss closed-circuit alarm and detector systems. These are simpler and do not require the use of photo-cell units, being dependent upon ordinary metallic contacts for burglar and fire alarm purposes.

Wooden Roof-Gutters

MANY OLD AND GOOD materials that used to be in common use are going to come back if shortages continue to develop. Waterworks men have been recently reminded that back in early days of American cities, hollow wooden pipes were used to distribute the water, and some of these, surprisingly enough, are in good condition today, when dug up.

Somewhat along this line are wooden gutters of Douglas fir, for draining roofs to the downspouts. Such gutters, if made of the proper wood (southern cypress, redwood, western red cedar, or Douglas fir), and correctly installed will give service at least equivalent to that afforded by gutters of ordinary galvanized metal.

Wooden gutters should be installed in such a way that water drains away quickly after rains, for this favors long life by permitting thorough drying out between rains. Joints be-

tween pieces should be properly calked, and the edge which goes against the eaves should be fitted properly and flashed to prevent water from seeping into the joint, where it might stand a long time and produce

rotting. All gutters should, of course, be kept clear of leaves and dirt, for such accumulations hasten deterioration by preventing prompt drainage of water.

The priming coat for these gutters is aluminum paint, over which ordinary paint can be applied to match the color scheme of the house, or the priming coat can be white lead and linseed oil, all cuts and raw ends being painted with a special heavy mixture of white lead and linseed oil (10 lb. soft paste white lead to not over 1¼ pt. of boiled linseed oil). The joints should be sealed with white lead, roofing cement, or some calking compound. But note that no water that has passed over a surface coated with white lead or white lead paint should be used for drinking or cooking, for such water will carry dangerous lead compounds and may cause serious harm or illness.

The Consumer Study Outline

THIS Outline contains questions based on the current BULLETIN, projects in connection with some of the articles, and suggestions for supplementary reading.

There is no charge for this teaching aid for teachers who wish to use it with CR's BULLETINS in their classroom work. If you wish your name put on the mailing list, send your name, the address of your school, and the names of the subjects you teach to Consumers' Research, Inc., Washington, New Jersey.

Ratings of Motion Pictures



This section aims to give critical consumers a digest of opinion from a number of reviews, ranging from the motion picture trade press to Parents' Magazine which rates motion pictures not only on their quality as entertainment, but on their suitability in various aspects for children.

It should be emphasized that the motion picture ratings which follow do not represent the judgment of a single person but are based on an analysis of the reviews appearing in some 20 different periodicals.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended). The sources of the reviews are:

America, Box Office, Chicago Daily Tribune, The Christian Century, Cue, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Liberty, Mademoiselle, Motion Picture Herald, Motion Picture Reviews (The Women's University Club of Los Angeles), National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure	mel—melodrama
biog—biography	mus—musical
car—cartoon	mys—mystery
com—comedy	nov—dramatization of a novel
cri—crime and capture of criminals	rom—romance
doc—documentary	soc—social-problem drama
dr—drama	trav—travelogue
fan—fantasy	war—dealing with the lives of people
hist—founded on historical incident	in wartime
	wes—western

A	B	C		
1	11	2	Across the Pacific	war-mel A
1	7	1	American Empire	wes-dr AY
—	4	2	Andy Hardy's Double Life	com AY
1	9	1	Apache Trail	mus-wes AY
1	8	2	Arabian Nights	mel A
—	1	6	Army Surgeon	war-mel AY
1	8	2	Avengers, The	war-mel AY
14	2	—	Bambi	car AY
—	3	—	Bandit Ranger	mus-wes AY
—	4	—	Battle Cry of China	doc AY
—	5	—	Battle of Midway	doc AY
—	2	5	Behind the Eight Ball	mys-mus-com A
—	4	1	Bells of Capistrano	mus-wes AY
1	10	2	Between Us Girls	com AY
—	2	1	Billy the Kid in Sheriff of Sage Valley	wes AY
5	8	2	Black Swan, The	mel AY
—	3	5	Boogleman Will Get You, The	com AY
—	3	—	Boots and Saddles (re-issued)	mus-wes AY
—	2	5	Boss of Big Town	mel AY
—	1	3	Boston Blackie Goes Hollywood	cri-com AY
—	3	2	Bowery at Midnight, The	cri-mel A
—	3	7	Busses Roar	war-mel A
—	9	3	Cairo	war-mus-mel AY
—	5	—	Call of the Canyon	mus-wes AY
—	3	5	Careful, Soft Shoulders	war-mel A
3	11	—	Casablanca	war-mel A
—	5	7	Cat People	mel A
1	3	—	Chetniks	war-mel AY
—	4	6	China Girl	war-mel A
—	4	1	Cinderella Swings It	mus-com AY

A	B	C		
—	3	3	City of Silent Men	mel AY
—	2	1	City Without Men	war-mel A
3	7	2	Commandos Strike at Dawn	war-mel AY
—	6	4	Counter Espionage	war-mys AY
—	—	4	Criminal Investigator	mel A
—	4	1	Crystal Ball, The	com A
—	3	2	Daring Young Man, The	war-com AY
—	3	—	Dawn on the Great Divide	wes AY
—	4	—	Deep in the Heart of Texas	mus-wes AY
—	4	5	Destination Unknown	war-mel A
—	3	4	Devil with Hitler, The	war-com AY
—	6	1	Dr. Gillespie's New Assistant	dr A
—	5	4	Dr. Renault's Secret	cri-mel A
—	5	2	Enemy Agents Meet	
—	—	—	Ellery Queen	war-mel AY
—	5	5	Escape from Hong Kong	war-mel AY
—	8	2	Eyes in the Night	war-mys AY
—	3	6	Eyes of the Underworld	cri-mel A
—	6	2	Falcon's Brother, The	war-mys A
—	8	1	Flying Fortress	war-mel A
4	7	1	Flying Tigers	war-mel AY
1	12	2	Footlight Serenade	mus-com A
1	11	2	For Me and My Gal	war-mus-com AY
—	2	3	Foreign Agent	war-mus-mel A
1	5	5	Forest Rangers, The	mel AY
1	3	—	Forever and a Day	war-dr AY
—	—	—	Gallant Lady (See Prison Girls)	
2	11	—	Gentleman Jim	biog AY
—	9	—	George Washington Slept Here	com AY
—	6	6	Girl Trouble	com A
1	5	5	Glass Key, The	cri-mel A
—	4	2	Gorilla Man, The	war-mel A
—	4	5	Great Gildersleeve, The	com AY
—	2	3	Great Impersonation, The	war-mel A
—	7	1	Happy Go Lucky	mus-com A
—	5	3	Hard Way, The	mus-dr A
2	3	—	Heart of the Golden West	mus-wes AY
—	3	5	Hello Annapolis	com AY
—	3	5	Henry Aldrich, Editor	mel AY
1	3	—	Henry Aldrich Gets Glamor	com AY
—	3	8	Here We Go Again	com AY
—	3	6	Hidden Hand, The	mys-com A
—	6	4	Highways by Night	cri-com A
—	2	4	Hillbilly Blitzkrieg	war-com AY
—	6	1	Hitler's Children	war-dr A
—	9	5	I Married a Witch	com A
—	8	1	Ice-Capades	mus-com AY
—	10	4	Iceland	mus-com A
1	4	—	Immortal Sergeant, The	war-dr AY
10	3	—	In Which We Serve	war-dr A
—	4	2	Isle of Missing Men	war-mel A
—	5	3	It Comes Up Love	mus-com AY
—	4	3	Jacaré	animal AY
—	3	1	Johnny Doughboy	mus-com AY
2	8	2	Journey for Margaret	war-dr A
—	3	2	Jungle Siren	mel A
—	2	1	Junior Army	dr AY
—	5	4	Just Off Broadway	cri-dr A
—	2	4	Keeper of the Flame	war-nov A
—	2	1	Kid Dynamite	cri-mel AY
—	3	1	King of the Stallions	wes AY
—	2	2	Lady Bodyguard	mel A
—	5	2	Lady from Chungking	war-dr A
—	1	2	Laugh Your Blues Away	com AY
1	8	5	Life Begins at 8:30	dr A
—	3	2	Little Joe, The Wrangler	wes AY
—	2	3	Living Ghost, The	mys-com AY
—	1	2	London Blackout Murders	war-cri-dr A

A	B	C		
—	2	1	Lost Canyon	wes AYC
—	5	6	Lucky Jordan	war-mel A
—	5	4	Madame Spy	war-mel A
3	12	—	Major and the Minor, The	com A
—	3	6	Man in the Trunk, The	cri-mys A
—	—	3	Man of Courage	cri-mel A
—	5	4	Manila Calling	war-dr A
—	1	4	Man's World, A	war-mel A
—	2	4	Margin for Error	war-dr A
—	4	2	Meanest Man in the World, The	com A
—	1	3	Miss V from Moscow	war-mel AY
2	5	5	Moon and Sixpence, The	nov A
—	5	3	Moonlight in Havana	mus-com A
—	4	1	Mountain Rhythm	war-com AYC
—	3	4	Mrs. Wiggs of the Cabbage Patch	dr AYC
—	2	2	Mugtown	cri-com AYC
—	3	4	Mummy's Tomb, The	cri-mel A
—	5	3	My Heart Belongs to Daddy	com AY
2	11	—	My Sister Eileen	com A
—	1	3	My Son, the Hero	war-com A
—	11	1	Navy Comes Through, The	war-mel AY
—	3	2	Neath Brooklyn Bridge	mel AY
—	6	1	Night for Crime, A	mys A
—	3	4	Night Monster	mys-mel A
—	3	2	Night Plane from Chungking	war-mel AY
—	3	3	Night to Remember, A	mys AYC
—	9	4	Nightmare	war-mys-mel A
1	5	1	Northwest Rangers	mel AYC
3	9	2	Now, Voyager	dr A
—	3	1	Old Chisholm Trail, The	mus-wes AYC
—	4	1	Old Homestead, The	mus-cri-com AYC
—	5	3	Omaha Trail, The	wes AYC
—	6	8	Once upon a Honeymoon	war-dr A
—	2	1	One Dangerous Night	mys AYC
2	8	1	One of Our Aircraft Is Missing	war-mel AY
—	7	5	Orchestra Wives	mus-com A
—	2	2	Outlaws of Pine Ridge	wes AYC
—	4	2	Over My Dead Body	mys-com A
—	4	1	Overland to Deadwood	wes AYC
—	12	4	Palm Beach Story, The	com A
—	10	4	Panama Hattie	war-mus-com A
—	8	6	Pardon My Sarong	com A
—	4	—	Payoff, The	cri-mel A
1	5	—	Phantom Killer	mys A
4	13	—	Pied Piper, The	war-mel AYC
—	2	9	Pierre of the Plains	dr AYC
—	7	4	Pittsburgh	mel A
—	1	3	Police Bullets	cri-mel A
—	5	1	Powers Girl, The	mus-com A
—	7	5	Priorities on Parade	mus-com AYC
—	1	4	Prison Girls (Previously released as Gallant Lady)	mel A
—	2	1	Queen of Broadway	mel A
—	4	3	Quiet Please, Murder	war-cri-mel A
—	2	1	Raiders of San Joaquin	mus-wes AYC
11	6	—	Random Harvest	nov A
3	11	3	Reap the Wild Wind	mel AYC
—	3	—	Red River Robin Hood	mus-wes AYC
—	6	3	Reunion (in France)	war-mel A
—	4	1	Rhythm Parade	mus-com A
—	3	—	Ridin' Down the Canyon	mus-wes AYC
4	10	1	Road to Morocco	mus-com AY
—	2	5	Sabotage Squad	war-mel AYC
3	4	1	Saludos Amigos	car AYC
—	3	4	Scattergood Survives a Murder	cri-com AYC
—	4	4	Secret Enemies	war-mel A
1	5	1	Secrets of a Co-ed	mus-mel A
—	8	4	Seven Days Leave	war-mus-com AY
—	3	5	Seven Miles from Alcatraz	war-mel A
3	7	3	Seven Sweethearts	mus-com AYC
4	6	—	Shadow of a Doubt	cri-dr A
—	5	3	Sherlock Holmes and the Secret Weapon	war-mel AY
—	7	—	Sherlock Holmes and the Voice of Terror	war-mys-dr AY

A	B	C		
—	3	1	Silent Witness	cri-mel A
1	6	4	Silver Queen	mel A
1	3	—	Silver Skates	mus-com AYC
—	4	4	Sin Town	mel A
—	4	1	Smith of Minnesota	biog AYC
—	3	1	Sombrero Kid, The	wes A
—	11	4	Somewhere I'll Find You	war-mel A
—	4	3	Spirit of Stanford	com AYC
—	9	5	Springtime in the Rockies	mus-com AYC
—	1	2	Stand By, All Networks	war-mel AYC
3	6	1	Stand By for Action	war-dr A
1	11	2	Star Spangled Rhythm	war-mus-com A
—	3	5	Street of Chance	mys-nov AY
—	2	1	Sundown Kid, The	wes AYC
—	4	—	Sunset Serenade	mus-wes AYC
1	10	4	Tales of Manhattan	dr A
—	4	1	Tarzan Triumphs	war-mel AYC
1	14	—	Talk of the Town, The	com AY
3	7	1	Tennessee Johnson	hist-dr AYC
—	2	1	Tenting Tonight on The Old Camp Ground	mus-wes AYC
—	4	—	Texas to Bataan	mus-wes AYC
—	1	3	Texas Trouble Shooters	wes AYC
—	3	6	That Other Woman	mus-com AY
—	8	4	They All Kissed the Bride	com A
—	6	1	They Got Me Covered	war-com A
—	2	3	They Raid by Night	war-dr AYC
—	4	2	Three Hearts for Julia	war-com A
—	5	5	Through Different Eyes	cri-mys A
—	8	4	Thunder Birds	war-mel AYC
—	4	—	Timber	war-mel AYC
—	3	3	Time to Kill	mys-mel A
—	5	9	Tish	com A
1	8	—	Tombstone	wes AYC
—	2	5	Tomorrow We Live	cri-mel A
—	3	3	Top Sergeant	war-mel AYC
—	1	3	Tower of Terror	war-mel A
—	3	3	Traitor Within, The	mel A
—	1	2	Truck Busters	cri-mel AYC
—	4	4	Undercover Man	wes AY
—	1	5	Underground Agent	war-mel AYC
—	5	3	Undying Monster, The	mys-mel A
1	11	1	Unfinished Business	com AY
—	6	3	United We Stand	doc AYC
—	10	4	Valley of the Sun	wes AYC
—	3	1	Vengeance of the West	wes A
5	8	2	Wake Island	war-dr AYC
—	10	6	War Against Mrs. Hadley, The	war-dr AYC
—	5	1	War Dogs	mel AYC
—	5	1	We Are the Marines	doc AYC
—	2	1	West of the Law	wes AYC
—	5	1	West of Tombstone	mus-wes AYC
—	4	1	Westward Ho	wes AYC
—	6	7	What's Cookin'?	mus-com AYC
—	7	1	When Johnny Comes Marching Home	war-mus-com AYC
—	4	7	Whispering Ghosts	com AYC
—	9	2	Whistling in Dixie	cri-mys AYC
—	12	7	White Cargo	dr A
—	6	6	Who Done It?	mys-com AYC
—	9	4	Wife Takes a Flier, The	war-com A
—	2	5	Wildcat	mel A
2	9	2	Wings and the Woman	biog-war-dr A
—	7	3	Wings for the Eagle	war-dr AYC
—	9	1	World at War	war-doc A
—	3	3	Wrecking Crew	mel AY
—	2	3	X Marks the Spot	cri-mel A
—	8	4	Yank at Eton, A	com AYC
—	1	4	Yank in Libya, A	war-mel A
13	4	—	Yankee Doodle Dandy	mus-biog AYC
—	2	3	Yanks Are Coming, The	war-mus-com AYC
—	6	2	Yokel Boy	mus-com A
—	5	3	You Can't Escape Forever	cri-mel AY
2	10	1	You Were Never Lovelier	mus-com AYC
3	4	—	Young Mr. Pitt, The	biog AY
—	6	1	Youth on Parade	mus-com AY
—	1	4	Yukon Patrol, The	war-mel AYC

The Consumers' Observation Post

[Continued from page 4]

WINE, for those who can acquire the European custom of using it as a beverage with meals instead of hard-to-get tea and scarce, rationed coffee, may very possibly help a bit in the digestion of the increased amounts of carbohydrates that are sure to be a feature of our wartime diet. A first-rate American brand, of which some types compare favorably with very good European vintages, is Gold Seal put out by the Urbana Wine Co., Hammondsport, N. Y. The price is around 85 cents a bottle. For those who like sparkling wines, their Sparkling Burgundy at \$2.50 a bottle can help to turn an ordinary dinner party into an occasion.

* * *

VITAMIN D other than that synthesized in the skin by the ultraviolet rays of sunshine should not be necessary for infants or children living in a sunshine area of a tropical or semi-tropical region, unless the child were unable to get out of doors freely, according to advice in the Journal of the American Medical Association. The general tendency also, says the Journal, is to give too much medicinal vitamin D in the temperate zone. For this reason, people moving to tropical or semi-tropical regions should take care not to risk overdosing babies with vitamin D; in these sunnier climes, too much of the vitamin may do harm.

* * *

ALARM CLOCKS, as those who have tried to buy them lately have noticed, have pretty well disappeared from the stores. The big firms stopped production of these clocks back in July, but a few smaller firms were able to use materials on hand to continue production until two or three months ago. Unfortunately, in the development of the war production program with its night work and overtime, there has been more rather than less need for alarm clocks, which will indicate to most persons the practical impossibility of central planning and close government control of manufacturing programs. The old principle of supply adapting itself to demand works better—would have provided alarm clocks for all who need them, as the WPB apparently has come to realize at great expense and inconvenience to industry and the taxpayer. Now the WPB is considering resumption of production of a limited number of alarm clocks.

* * *

A DYE which within 60 seconds can determine whether a "cold" is due to infection by common cold germs, or is the result of an allergy or allergic ir-

[Concluded on page 30]

-
- Disregard*
- Fewer consumers' goods are to be available this coming year - - - according to predictions of high government officials.

ritation is an important new medical discovery recently announced before the American Public Health Association. The significance of this development lies in the fact that a large percentage of "colds" result from the type of special or individual sensitiveness to irritating substances, known as allergy. In children, many unnecessary operations for removal of tonsils are performed because the physician has not been in a position to know that an allergy rather than an infectious process was involved.

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PRONOUNCED INCREASE IN THE IMPORTATION OF SWISS WATCHES has resulted following the shortage of American-made watches. Ordinarily these sell heavily only in the cheaper and "department store grade" of watches, to consumers who buy chiefly for novelty and appearance, rather than for long life and dependable time-keeping qualities.

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WITH THE REDUCTION OF THE AMOUNT OF TETRAETHYL LEAD in gasoline, and the possibility that ethyl gas may not be available for consumers' use in certain areas, it becomes important to consider spark timing. Everyone should make it a point to see that his spark is advanced toward the point where slight knocking or pinging begins when the car is pulling hard with the throttle well open. This gives the most efficient use of gasoline of a given octane number.

* * *

IT IS NOW EXPECTED that there will be an actual deficiency in fountain pen production. Only about one-half of the normal number will be manufactured in 1943, and rubber sacs for new pens are prohibited after exhaustion of present stocks. Repair parts, however, will be available to the normal extent, so one of the consumer's several old pens, if it was a good one, can be put in proper working order and made to serve.

* * *

INSULATED CONTAINERS of cardboard for Mason or Ball glass jars, quart size, intended to keep contents hot or cold for several hours were tested. One called Ther-Mo-Pack is put out by Lockwood Products, Chicago. Another brand is Pic-Pac for Picnics and is put out by Koolhot Sales Co., Duluth, Minn. The price is around 60 cents. While they are not nearly so effective as vacuum bottles, liquids in jars placed in them when the temperature was near the boiling point were around 40 degrees hotter after four hours than liquids in Mason jars not enclosed in the containers. The fall of temperature in the liquid was 10 times as rapid, however, as it would be with the liquid in a vacuum (thermos) bottle.

* * *

SUBSTITUTES: Lavatory and bathtub stoppers of a white plastic material are on sale at the 5-and-10-cent stores at 5 cents and up, depending on size. (Sizes run from 1 inch to 2 inches, by eighths.) They appear to be satisfactory except for an obvious weakness in the ring to which the chain is attached. Insecurity at this point was an all too common failing of even the old-fashioned stopper with a metal ring. With a little more experience, the manufacturer may be able to develop a ring or hook that will not be subject to the weakness exhibited by the stoppers examined, a weakness which becomes more pronounced on repeated immersion of the stopper in hot water.

Phonograph Records

By WALTER F. GRUENINGER

Ratings of Phonograph Records

Prices include Excise Tax

Key: AA—highly recommended; A—recommended; B—intermediate;
C—not recommended.

Quality of Music Inter-pretation Fidelity of Recording

ORCHESTRA

- Beethoven: Symphony No. 8.** Philharmonic-Symphony Orchestra of NY under Walter. 6 sides, Columbia Set 525. \$3.67. This joyous symphony, as recorded by Koussevitzky and Toscanini sounds like the masterpiece Beethoven created. Walter's version falls short of these in interpretation, orchestral performance, and recording. A B B
- Debussy: La Mer.** Cleveland Orchestra under Rodzinski. 6 sides, Columbia Set 531. \$3.67. Debussy's three impressions of the sea, completed 1905, won't appeal to those whose chronological enjoyment of music ends with Brahms. Rodzinski is an able interpreter well recorded, though sternly monitored to prevent, I suspect, the distortion that occurs on side 2 of the 3-year-old Koussevitzky Victor Set 643. Nevertheless, the palm goes to Koussevitzky. The preferred set would include Rodzinski's first disc, Koussevitzky's second and third. A A A
- DeFalla: Ritual Dance of Fire & Novacek: Perpetual Motion.** All-American Orchestra under Stokowski. 2 sides, Columbia 11879. \$1.05. The savage dance comes off with more excitement than the Boston Pops' performance though the fidelity is not as good. The display piece overside is not worth a second hearing. B A B
- Kern: Mark Twain.** Kostelanetz and His Orchestra. 8 sides, Columbia Set X227. \$2.62. This pretentious five movement portrait adds up to less than one good Kern musical comedy tune. C AA AA
- Moussorgsky: Boris Godunov—Love Music, Act III & Shostakovich: Age of Gold—Polka.** National Symphony Orchestra under Kindler. 2 sides, Victor 11-8239. \$1.05. The Love Music, arranged by the conductor, leaves little of Moussorgsky. The amusing polka overside is a favorite at pop concerts. A A A
- Sibelius: Symphony No. 1.** Philharmonic-Symphony Orchestra of NY under Barbirolli. 10 sides, Columbia Set 532. \$5.77. The lush melodies and obvious emotion of this symphony which adheres closely to the classic form, suggest Tchaikowsky. The recording lacks the clarity of year old Victor Set 881. Barbirolli's consistent eloquence is more commendable than Ormandy's occasional theatrics. On the other hand, Ormandy's full use of surfaces, faster tempi, and slight cuts in the first two movements saves two sides (\$1.05) without impairing the effect. Side 6 of my Barbirolli recording wavers in pitch. Over-all by a hairs' breadth, I prefer Victor Set 881. AA AA A
- Strauss: Don Juan.** National Symphony Orchestra under Kindler. 4 sides, Victor Set 914. \$2.62. As an interpretation this set falls short of Victor Set 351. The engineers, however, have performed their task brilliantly in the recording. A A AA
- Tchaikowsky: Capriccio Italien.** Philharmonic-Symphony Orchestra of NY under Beecham. 4 sides, Columbia Set X229. \$2.62. A slight work at best. Beecham's interpretation, characterized by infinite care for detail, grows with repeated playing. Fiedler's performance in Victor Set 632 offers more verve and crash and is brilliantly recorded. B AA A
- Verdi: Aida—Triumphal March & Ballet Music.** Columbia Broadcasting Symphony under Barlow. 2 sides, Columbia 71401. \$1.05. A hack job. B B B
- Bach: Concerto in E (5 sides) & Corelli: Adagio (1 side).** Busch (violin) & Busch Chamber Players. Columbia Set 530. \$3.67. A frequently heard concerto with a deeply moving slow movement receives a distinguished performance. Best of 3 recorded versions. The filler adds little. A AA AA
- Bruch: Concerto No. 1.** Milstein AA AA A

CONCERTOS

Quality of Music Inter-pretation Fidelity of Recording

(violin) & Philharmonic-Symphony Orchestra of NY under Barbirolli. 6 sides, Columbia Set 517. \$3.67. To this melodious concerto Milstein brings his enormous technical facility and fine musicianship. The performance is ably supported by the orchestra and, with the exception of an all too common deficiency in bass, well recorded. Over-all, tops the recordings of Campoli and Menuhin.

CHAMBER & INSTRUMENTAL

- Beethoven: Quartet No. 8 (Op. 59 No. 2).** Coolidge Quartet. 8 sides, Victor Set 919. \$4.72. A thoroughly enjoyable string quartet given an expansive performance which just falls short of the Budapest Quartet's playing in Victor Set 340. AA A AA
- Beethoven: Quartet No. 11 (Op. 95).** Budapest String Quartet. 6 sides, Columbia Set 519. \$3.67. To chamber music enthusiasts, a delightful work which is here played admirably and recorded smoothly. Overall, best recording. AA AA AA
- Brahms: Hungarian Dance No. 2 & Rimsky-Korsakoff: The Flight of the Bumble Bee.** Milstein (violin). 2 sides, Columbia 17352. 79c. Two encore numbers. On the Bumble Bee side, however, less than half the available recording space is used, shortchanging the buyer a bit. A AA A
- Chopin: Preludes (Op. 28 No. 1 through No. 24).** Petri (piano). 8 sides, Columbia Set 523. \$4.72. Chopin miniatures which reveal the composer at his best. Petri never drips, never exaggerates but doesn't always reveal the full poetry. Over-all, equal to Cortot's recording. AA AA A
- Handel: Passacaglia from Harpsichord Suite No. 7.** Heifetz (violin), Primrose (viola). 2 sides, Victor 11-8151. \$1.05. Virtuoso instrumental playing of an arrangement by Halvorsen. A AA A
- Shostakovich: Quartet (Op. 49).** Stuyvesant String Quartet. 4 sides, Columbia Set X231. \$2.62. This brief, empty quartet appeals to me no more today than it did when I rated the Royale recording in Consumers' Digest, March 1940, nor when I heard the Budapest Quartet play it in concert. The Stuyvesants have played it 35 times in a season! With the exception of a swish on side 3 of my recording, the surfaces are remarkably quiet. B AA AA
- Bizet: Carmen—Air de Fleur & Flo-tow: Martha—M'Appari.** Kiepara (tenor). 2 sides, Columbia 71397. \$1.05. Annoying mannerisms and poor musicianship added to mediocre accompaniment and tinny recording mar these favorites of the operatic repertoire. AA B B
- Bransen: There Shall Be Music When You Come & Rogers: The Star & Craxton: Come You Mary.** Melchior (tenor). 2 sides, Columbia 17353. 79c. The style of the heldentenor seems least appropriate to the tender Come You Mary and doesn't altogether fit the other songs. B B AA
- Chopin: Prayer for Poland & Marczewski: On Your Lips of Coral.** Kiepara (tenor). 2 sides, Columbia 71412. \$1.05. Nothing in Kiepara's wobbly sobbing of a vocal arrangement of Chopin's Prelude, Opus 28 No. 15 will lead me to that side again. The other side is in better taste. C C B
- Donizetti: La Favorita—O Mio Fanciullino & Tchaikowsky: Jeanne d'Arc—Adieu Forests.** Stevens (mezzo-soprano). 2 sides, Columbia 71440. \$1.05. Rise Stevens, whose voice I have admired since her student days, "sings magnificently in both arias," as the blurb states. A AA AA
- Massenet: Werther—Ces Lettres & Saint-Saens: Samson et Delilah—Amour, viens aider ma faiblesse.** Castagna (mezzo-soprano). 2 sides, Columbia 71390. \$1.05. It is a pleasure to hear the letter song, though cut, and the aria in which Delilah calls on love to help her overcome Samson, sung in so rich a voice and with evident good taste. A AA AA



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